STIC Search Report
EIC 3700

STIC Database Tracking Number: 113671

TO:	From:
Michael Mendoza **Location: cp2 3b27** **Art Unit: 3761** **Case Serial Number: 09/731318**	**Jeanne Horrigan** **Location: EIC 3700** **CP2-2C08** **Phone: 305-5934** **jeanne.horrigan@uspto.gov**

Search Notes

Attached are the search results for the receptacles to facilitate the extraction of powders, including prior art searches in foreign and international patent databases; medical device, packaging technology, and general sci/tech non-patent literature databases; and the Web via the Scirus and Google search engines.

Generally I did not get abstracts or "key words in context" for foreign/international patent titles that just mention inhalers. However, at least some of these patents might also cover the packets of powder used in the inhalers. I will be happy to get the abstracts or full text of any of these if you want.

Also attached is a search feedback form. Completion of the form is voluntary. Your completing this form would help us improve our search services.

I hope the attached information is useful. Please feel free to contact me (phone 305-5934 or email jeanne.horrigan@uspto.gov) if you have any questions or need additional searching on this application.

JH

STIC Search Results Feedback Form

EIC 3700

Questions about the scope or the results of the search? Contact ***the EIC searcher or contact:***

John Sims, EIC 3700 Team Leader
308-4836, CP2-2C08

Voluntary Results Feedback Form

➢ *I am an examiner in Workgroup:* ☐ *Example: 3730*

➢ *Relevant prior art **found**, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

➢ *Relevant prior art **not found:***

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC3700 CP2 2C08

Access DB# 113671

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Michael Mendoza Examiner #: 79011 Date: 2/5/04
Art Unit: 37 Phone Number 305-3285 Serial Number: 09/731,518
Mail Box and Bldg/Room Location: CP2-3B27 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Receptacles to facilitate the extraction of grinders

Inventors (please provide full names): Steve Peboojian, Carlos Snyder, Andrew Clark

Earliest Priority Filing Date: 12/17/1999

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

****

STAFF USE ONLY

Searcher: Jeanne Herrington
Searcher Phone #:
Searcher Location:
Date Searcher Picked Up:
Date Completed:
Searcher Prep & Review Time:
Clerical Prep Time:
Online Time:

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#)
Bibliographic
Litigation
Fulltext
Patent Family
Other

Vendors and cost where applicable

STN
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (8-01)

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200409
File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)
File 371:French Patents 1961-2002/BOPI 200209
S1 6 AU='PABOOJIAN S'
S2 24 AU='SCHULER C'
S3 45 AU='CLARK A'
S4 5 S1 AND S2 AND S3
S5 610787 RECEPTACLE? OR CONTAINER? ?
S6 616460 POWDER?? OR TALC
S7 9 S1:S3 AND S5 AND S6
S8 5 S7 NOT S4

4/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013948523
WPI Acc No: 2001-432737/200146
Conditioning packaged powder such as drugs, involves subjecting receptacle to energy pulse to increase efficiency of powder extraction from chamber when gas is supplied

4/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013924233
WPI Acc No: 2001-408446/200143
Powder aerosolizing method used for aerosolizing powdered medicament, involves forming inlet opening in receptacle having powder filled cavity, and flowing pressurized gas through opening, cavity and extraction tube

4/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013607466
WPI Acc No: 2001-091674/200110
Aerosolizing a pharmaceutical formulation, comprises using a flow of respiratory gases to extract the pharmaceutical formulation from a receptacle and to place the formulation within the flow of gases

4/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013957399 **Image available**
WPI Acc No: 2001-441613/200147
Receptacle for extraction of powdered drugs in pulmonary drug delivery, comprises receptacle body defining enclosed cavity and having top, bottom ends, bottom end includes raised central region extending into cavity
Patent Assignee: INHALE THERAPEUTIC SYSTEMS INC (INHA-N); CLARK A (CLAR-I); PABOOJIAN S (PABO-I); SCHULER C (SCHU-I)
Inventor: **CLARK A ; PABOOJIAN S ; SCHULER C**
Number of Countries: 095 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200143529	A2	20010621	WO 2000US34037	A	20001215	200147	B
AU 200125801	A	20010625	AU 200125801	A	20001215	200162	
US 20010029947	A1	20011018	US 99172317	P	19991217	200166	

			US 2000731318	A	20001206		
EP 1237608	A2	20020911	EP 2000989270	A	20001215	200267	
			WO 2000US34037	A	20001215		
JP 2003516780	W	20030520	WO 2000US34037	A	20001215	200334	
			JP 2001544481	A	20001215		
MX 2002006011	A1	20030101	WO 2000US34037	A	20001215	200373	
			MX 20026011	A	20020617		

Priority Applications (No Type Date): US 99172317 P 19991217; US 2000731318 A 20001206

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200143529	A2	E	32	B65D-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200125801	A	B65D-000/00	Based on patent WO 200143529	
US 20010029947	A1	B05D-007/14	Provisional application US 99172317	
EP 1237608	A2 E	A61M-015/00	Based on patent WO 200143529	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003516780	W	38 A61M-013/00	Based on patent WO 200143529	
MX 2002006011	A1	B05B-011/06	Based on patent WO 200143529	

Abstract (Basic): WO 200143529 A2

NOVELTY - The receptacle (10) comprises a receptacle body (12) defining an enclosed cavity (20) and having a top end (14) and a bottom end (16). The bottom end includes a raised central region (26) that extends upwardly into the cavity. The receptacle body further comprises at least one curved wall (24) which in combination with raised central region forms semi-toroidal geometry in the cavity.

DETAILED DESCRIPTION - A portion of the bottom end is flat. The top end has a central hole and multiple vents which are covered by a removable cover attached to the top end. The receptacle body further includes a tab extending from the cavity.

INDEPENDENT CLAIMS are also included for the following:

(a) Method for aerosolizing a powder;

(b) Method for aerosolizing a powdered medicament;

(c) Apparatus for aerosolizing a powdered medicament;

(d) System for aerosolizing a powdered medicament; and

(e) A powder extraction system

USE - For holding fine powdered medicament in a powder extraction system used in pulmonary drug delivery.

ADVANTAGE - The cavity is configured to facilitate extraction of substantially all the powder contained in the receptacle, when air or another gas is drawn through the cavity. Air flow through the cavity serves as scrubber to remove powder from walls of the cavity, from where it is drawn into extraction tube. A tab extending from cavity facilitates handling of receptacle, when it is inserted into an aerosolizing device. The flat geometry of the bottom end of receptacle body facilitates the placement of receptacle onto holder.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective view of receptacle showing vents formed in top end and an extraction tube that has been inserted into the top end.

Receptacle (10)

Receptacle body (12)
Top end (14)
Bottom end (16)
Cavity (20)
Raised central region (26)
Vents (32)
pp; 32 DwgNo 3/15
Derwent Class: B07; P34; P42; Q32; Q34
International Patent Class (Main): A61M-013/00; A61M-015/00; B05B-011/06; B05D-007/14; B65D-000/00
International Patent Class (Additional): A61M-016/00; B05B-007/14; B65D-083/06

4/7/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013157217 **Image available**
WPI Acc No: 2000-329090/200028
Novel flow resistance modulated device for use to deliver an active agent formulation to the lung of a human patient, comprising a flow resistance modulator
Patent Assignee: INHALE THERAPEUTIC SYSTEMS INC (INHA-N); INHALE THERAPEUTIC SYSTEMS (INHA-N); NEKTA MEDICINES INC (NEKT-N); NEKTAR THERAPEUTICS (NEKT-N); CLARK A (CLAR-I); PABOOJIAN S (PABO-I); SCHULER C (SCHU-I)
Inventor: **CLARK A ; PABOOJIAN S ; SCHULER C**
Number of Countries: 088 Number of Patents: 016
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200021594	A2	20000420	WO 99US23698	A	19991007	200028	B
AU 200012028	A	20000501	AU 200012028	A	19991007	200036	
BR 9914384	A	20010626	BR 9914384	A	19991007	200140	
			WO 99US23698	A	19991007		
NO 200101742	A	20010606	WO 99US23698	A	19991007	200141	
			NO 20011742	A	20010406		
EP 1119384	A2	20010801	EP 99970333	A	19991007	200144	
			WO 99US23698	A	19991007		
CZ 200101181	A3	20010815	WO 99US23698	A	19991007	200157	
			CZ 20011181	A	19991007		
SK 200100477	A3	20011008	WO 99US23698	A	19991007	200163	
			SK 2001477	A	19991007		
KR 2001075568	A	20010809	KR 2001704241	A	20010403	200211	
ZA 200102766	A	20011224	ZA 20012766	A	20010404	200212	
HU 200103805	A2	20020228	WO 99US23698	A	19991007	200223	
			HU 20013805	A	19991007		
MX 2001003614	A1	20010701	MX 20013614	A	20010409	200236	
JP 2002527151	W	20020827	WO 99US23698	A	19991007	200271	
			JP 2000575566	A	19991007		
US 20020168322	A1	20021114	US 98103702	P	19981009	200277	
			US 99414384	A	19991007		
AU 754724	B	20021121	AU 200012028	A	19991007	200305	
NZ 510853	A	20030829	NZ 510853	A	19991007	200365	
			WO 99US23698	A	19991007		
CN 1447704	A	20031008	CN 99811894	A	19991007	200403	

Priority Applications (No Type Date): US 98103702 P 19981009; US 99414384 A 19991007

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200021594	A2	E	29	A61M-015/00	
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
AU 200012028	A				Based on patent WO 200021594
BR 9914384	A			A61M-015/00	Based on patent WO 200021594
NO 200101742	A			A61M-015/00	
EP 1119384	A2	E		A61M-015/00	Based on patent WO 200021594
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CZ 200101181	A3			A61M-015/00	Based on patent WO 200021594
SK 200100477	A3			A61M-015/00	Based on patent WO 200021594
KR 2001075568	A			A61M-015/00	
ZA 200102766	A		41	A61M-000/00	
HU 200103805	A2			A61M-015/00	Based on patent WO 200021594
MX 2001003614	A1			A61M-015/00	
JP 2002527151	W		30	A61M-015/00	Based on patent WO 200021594
US 20020168322	A1			A61L-009/04	Provisional application US 98103702
AU 754724	B			A61M-015/00	Previous Publ. patent AU 200012028 Based on patent WO 200021594
NZ 510853	A			A61M-015/00	Based on patent WO 200021594
CN 1447704	A			A61M-015/00	

Abstract (Basic): WO 200021594 A2

NOVELTY - Device comprising a flow resistance modulator that modulates the resistance of the flow of an aerosolized active agent formulation to produce an initial target flow rate in a flow rate monitoring and patient instruction independent manner, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is for a method of delivering an aerosolized active agent to the human lungs at a high flow resistance for an initial time period.

USE - The device is useful for the pulmonary delivery of an active agent formulation for increased systematic bioavailability via absorption in the deep lung. The active agent can be in dry powder form, nebulized, in a mixture with a propellant, a solution, a suspension, or a slurry (all claimed). The active agent may be, e.g. insulin, human growth hormone, interferon alpha or beta, low molecular weight heparin, respiratory syncytial virus antibody, erythropoietin (all claimed), a food or food supplement, nutrient, drug, vaccine, and/or vitamin.

ADVANTAGE - The device provides increased blood levels of active agent in a comfortable and reproducible manner. Initially, when the flow rate is low and the aerosol concentration is high, the number of particles in the aerosol is at its peak and the particles will be preferentially delivered to the deep lung rather than being impacted in the throat, and the bioavailability of the active agent will be increased.

DESCRIPTION OF DRAWING(S) - The drawing shows a device for delivering a dry powder active agent.

Flow resistance modulator (100)

pp; 29 DwgNo 1/9

Derwent Class: B07; P34

International Patent Class (Main): A61L-009/04; A61M-000/00; A61M-015/00

International Patent Class (Additional): A61K-009/12; A61M-011/00

8/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014350344
WPI Acc No: 2002-171047/200222
Formation of opening in receptacle **for extraction of** powdered **medicaments, comprises piercing cover of** receptacle **with blade(s) of cutting mechanism, and moving blade through the cover**

8/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014228799
WPI Acc No: 2002-049497/200206
Formation of receptacle **openings, involves piercing cover with blade, and moving blade through the cover**

8/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013565706
WPI Acc No: 2001-049913/200106
Pharmaceutical formulation aerosolizing apparatus useful for pulmonary delivery of drugs includes a mechanism, which receives the high pressure gas stream, and extracts the formulation

8/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
011970854
WPI Acc No: 1998-387764/199833
Preparation of dry powder **composition for pulmonary drug delivery - having relatively uniform characteristics and minimal residual organic solvents**

8/7/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
012925440 **Image available**
WPI Acc No: 2000-097276/200008
Dry powder **dispersing apparatus for aerosolizing a** powdered **medicament for inhalation by a patient**
Patent Assignee: INHALE THERAPEUTIC SYSTEMS (INHA-N); INHALE THERAPEUTIC SYSTEMS INC (INHA-N); AXFORD G S (AXFO-I); BURR J D (BURR-I); HALL R K (HALL-I); RAY C (RAYC-I); SCHULER C (SCHU-I); SMITH A E (SMIT-I); SNYDER H (SNYD-I)
Inventor: AXFORD G S; BURR J D; HALL R K; RAY C; **SCHULER C** ; SMITH A E; SNYDER H
Number of Countries: 087 Number of Patents: 018
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9962495	A2	19991209	WO 99US11180	A	19990519	200008	B
AU 9940905	A	19991220	AU 9940905	A	19990519	200021	
NO 200006167	A	20010205	WO 99US11180	A	19990519	200115	
			NO 20006167	A	20001204		
EP 1082155	A2	20010314	EP 99924396	A	19990519	200116	

			WO 99US11180	A	19990519		
CZ 200004499	A3	20010613	WO 99US11180	A	19990519	200138	
			CZ 20004499	A	19990519		
US 6257233	B1	20010710	US 9887929	P	19980604	200141	
			US 99312434	A	19990514		
BR 9910931	A	20011016	BR 9910931	A	19990519	200170	
			WO 99US11180	A	19990519		
CN 1312729	A	20010912	CN 99809307	A	19990519	200202	
KR 2001071400	A	20010728	KR 2000713733	A	20001204	200208	
US 20020017297	A1	20020214	US 9887929	P	19980604	200214	
			US 99312434	A	19990514		
			US 2001873946	A	20010604		
HU 200103610	A2	20020228	WO 99US11180	A	19990519	200223	
			HU 20013610	A	19990519		
ZA 200006920	A	20020424	ZA 20006920	A	20001124	200237	
SK 200001816	A3	20020702	WO 99US11180	A	19990519	200253	
			SK 20001816	A	19990519		
NZ 508536	A	20030328	NZ 508536	A	19990519	200325	
			WO 99US11180	A	19990519		
US 6546929	B2	20030415	US 9887929	P	19980604	200329	
			US 99312434	A	19990514		
			US 2001873946	A	20010604		
JP 2003527136	W	20030916	WO 99US11180	A	19990519	200362	
			JP 2000551751	A	19990519		
MX 2000011904	A1	20020401	WO 99US11180	A	19990519	200363	
			MX 200011904	A	20001130		
US 20030209243	A1	20031113	US 9887929	P	19980604	200382	
			US 99312434	A	19990514		
			US 2001873946	A	20010604		
			US 2002327633	A	20021219		

Priority Applications (No Type Date): US 99312434 A 19990514; US 9887929 P 19980604; US 2001873946 A 20010604; US 2002327633 A 20021219

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9962495	A2	E	69	A61K-009/00	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9940905	A		A61K-009/00	Based on patent WO 9962495
NO 200006167	A		A61M-000/00	
EP 1082155	A2	E	A61M-015/00	Based on patent WO 9962495

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

CZ 200004499	A3		A61M-015/00	Based on patent WO 9962495
US 6257233	B1		A61M-015/00	Provisional application US 9887929
BR 9910931	A		A61K-009/00	Based on patent WO 9962495
CN 1312729	A		A61M-015/00	
KR 2001071400	A		A61M-011/02	
US 20020017297	A1		B05D-007/14	Provisional application US 9887929 Cont of application US 99312434 Cont of patent US 6257233
HU 200103610	A2		A61K-009/00	Based on patent WO 9962495

ZA 200006920	A	80	A61K-000/00	
SK 200001816	A3		A61M-015/00	Based on patent WO 9962495
NZ 508536	A		A61K-009/00	Based on patent WO 9962495
US 6546929	B2		A61M-015/00	Provisional application US 9887929 Cont of application US 99312434 Cont of patent US 6257233
JP 2003527136	W	77	A61M-015/00	Based on patent WO 9962495
MX 2000011904	A1		A61K-009/00	Based on patent WO 9962495
US 20030209243	A1		A61M-015/00	Provisional application US 9887929 Cont of application US 99312434 Cont of application US 2001873946 Cont of patent US 6257233 Cont of patent US 6546929

Abstract (Basic): WO 9962495 A2

NOVELTY - Apparatus for aerosolizing a **powdered** medicament comprises a pressurization cylinder, a piston slidable within the cylinder, movable handle coupled to the cylinder, aerosolizing mechanism, carriage assembly to receive **receptacle** and couple it to the mechanism and first and second interlocks for carriage's movement upon handle's movement to extended position.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for (A) a method for aerosolizing a **powdered** medicament which is held within a **receptacle** comprising (i) inserting the **receptacle** into a carriage assembly until a first interlock is released from the carriage assembly; (ii) extending a handle to a fully extended position to release a second interlock from the carriage assembly; (iii) retracting the handle to a position to produce a charge of pressurized gas and (iv) operating a fire button to move the carriage assembly toward an aerosolizing mechanism until the **receptacle** is coupled with the mechanism and until the charge of pressurized gas is released; (B) a system for aerosolizing a **powdered** medicament; and (C) a method for supplying a **powdered** medicament to a patient comprising (i) dispersing a **powdered** medicament within a capture chamber; (ii) inhaling from the capture chamber to extract the **powdered** medicament and (iii) allowing air to enter the capture chamber such that the **powdered** medicament is extracted from the chamber in a bolus followed by the entering air.

USE - The apparatus is used for aerosolizing a **powdered** medicament.

ADVANTAGE - The configuration of the apparatus makes it not operative if the receptacle is not fully inserted and the handle is not fully extended. Controls are provided to ensure correct operation of the apparatus.

DESCRIPTION OF DRAWING(S) - The figure shows an exploded front perspective view of an apparatus for aerosolizing a **powdered** medicament.

Capture chamber (14)
Aerosolization mechanism (16)
Housing (20)
Receptacle (22)
Seal (26)
Latches (32)
Release button (34)
Carriage assembly (38)
Handle (40)
Fire button (42)
pp; 69 DwgNo 1/14

Derwent Class: B07; P34; P42; Q34
International Patent Class (Main): A61K-000/00; A61K-009/00; A61M-000/00; A61M-011/02; A61M-015/00; B05D-007/14
International Patent Class (Additional): A61M-016/00; B05B-011/06; B65D-083/06

```
File 348:EUROPEAN PATENTS 1978-2004/Feb W01
File 349:PCT FULLTEXT 1979-2002/UB=20040205,UT=20040129
Set     Items   Description
S1         12   AU='PABOOJIAN STEVE'
S2         20   AU='SCHULER CARLOS':AU='SCHULER CARLOS E'
S3         24   AU='CLARK ANDREW'
S4         10   S1 AND S2 AND S3
S5          0   PN=WO-2001
S6          1   PN='WO 200143529'
S7          2   PN='WO 200021594'
S8          2   PN='WO 9962495'
S9          1   PN='EP 1237608'
S10         1   PN='EP 1119384'
S11         1   PN='EP 1082155'
S12         6   S4 NOT S6:S11
S13        24   S1:S3 NOT S4
S14        22   S13 NOT S6:S11
S15     17631   (RECEPTACLE? OR CONTAINER? ?) (S)(POWDER?? OR TALC)
S16         8   S14 AND S15

 12/6/1     (Item 1 from file: 348)
01315505
SYSTEMS AND METHODS FOR EXTRACTING POWDERS FROM RECEPTACLES

 12/6/2     (Item 2 from file: 348)
01315425
SYSTEMS AND METHODS FOR TREATING PACKAGED POWDERS

 12/6/3     (Item 3 from file: 348)
01249815
SYSTEMS AND METHODS FOR AEROSOLIZING PHARMACEUTICAL FORMULATIONS

 12/6/4     (Item 1 from file: 349)
00811857    **Image available**
SYSTEMS AND METHODS FOR EXTRACTING POWDERS FROM RECEPTACLES

 12/6/5     (Item 2 from file: 349)
00810570    **Image available**
SYSTEMS AND METHODS FOR TREATING PACKAGED POWDERS

 12/6/6     (Item 3 from file: 349)
00766993    **Image available**
SYSTEMS AND METHODS FOR AEROSOLIZING PHARMACEUTICAL FORMULATIONS

 16/6/1     (Item 1 from file: 348)
01381640
SYSTEMS, DEVICES AND METHODS FOR OPENING RECEPTACLES HAVING A POWDER TO
    BE FLUIDIZED

 16/6/2     (Item 1 from file: 349)
01027845    **Image available**
APPARATUS AND METHOD FOR SEALING CAVITIES

 16/6/3     (Item 2 from file: 349)
00860679    **Image available**
LOCKOUT MECHANISM FOR AEROSOL DRUG DELIVERY DEVICES
```

16/6/4 (Item 3 from file: 349)
00854125 **Image available**
SYSTEMS, DEVICES AND METHODS FOR OPENING RECEPTACLES **HAVING A** POWDER **TO BE FLUIDIZED**

16/6/6 (Item 5 from file: 349)
00551889
DRY POWDER ACTIVE AGENT PULMONARY DELIVERY

16/6/7 (Item 6 from file: 349)
00515844
AEROSOLIZED ACTIVE AGENT DELIVERY

16/6/8 (Item 7 from file: 349)
00438632
AEROSOLIZED HYDROPHOBIC DRUG

16/3,AB/5 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00759810
APPARATUS AND METHOD FOR DISPENSING METERED AMOUNT OF AEROSOLIZED MEDICATION
APPAREIL ET PROCEDE DE DISTRIBUTION D'UNE DOSE DE MEDICAMENT EN AEROSOL
Patent Applicant/Assignee:
INHALE THERAPEUTIC SYSTEMS INC, 150 Industrial Road, San Carlos, CA 94070, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
SCHULER Carlos, 10344 Denison Avenue, Cupertino, CA 94403, US, US (Residence), VE (Nationality), (Designated only for: US)
PABOOJIAN Steve, 2133 Avy Avenue, Menlo Park, CA 94025, US, US (Residence), US (Nationality), (Designated only for: US)
BAKSHI Aneesh K, 1080 Ralston Avenue #6, Belmont, CA 94002, US, US (Residence), US (Nationality), (Designated only for: US)
TUTTLE Derrick, 400 E. Poplar Avenue #3, San Mateo, CA 94401, US, US (Residence), US (Nationality), (Designated only for: US
Legal Representative:
GIBBY Darin J, Townsend and Townsend and Crew LLP, Two Embarcadero Center, 8th floor, San Francisco, CA 94111-3834, US
Patent and Priority Information (Country, Number, Date):
Patent: WO 200072904 A1 20001207 (WO 0072904)
Application: WO 2000US14227 20000524 (PCT/WO US0014227)
Priority Application: US 99136518 19990528; US 2000556262 20000424
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 5588

English Abstract

The invention provides exemplary methods and apparatus for aerosolizing a pharmaceutical formulation contained within a receptacle. In one method, a metered amount of a pressurized gas is provided, with the pressurized gas previously being in equilibrium with a liquid. The metered gas is released to create a high pressure gas stream. The high pressure gas stream is flowed through an aerosolization mechanism to extract the pharmaceutical formulation from the receptacle and to disperse the pharmaceutical formulation within the gas stream to form an aerosol.

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File 155:MEDLINE(R) 1966-2004/Feb W1
File   5:Biosis Previews(R) 1969-2004/Feb W1
File  73:EMBASE 1974-2004/Feb W1
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W1
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File  42:Pharmaceuticl News Idx 1974-2004/Feb W1
File 441:ESPICOM Pharm&Med DEVICE NEWS 2004/Feb W2
Set     Items   Description
S1          3   AU='PABOOJIAN SD':AU='PABOOJIAN STEVE'
S2         74   AU='SCHULER C'
S3       1392   AU='CLARK A'
S4        302   AU='CLARK A.'
S5         35   AU='CLARK ANDREW'
S6         17   AU='SCHULER C.' OR AU='SCHULER CARLOS'
S7          1   S1 AND (S2 OR S6) AND S3:S5
S8       1820   S1:S6 NOT S7
S9      40892   RECEPTACLE? OR CONTAINER? ?
S10    189238   POWDER?? OR TALC
S11         3   S8 AND S9 AND S10
S12         2   RD (unique items)
S13       146   AU=SCHULER C?
S14         0   AU=SCHULER C. ?
S15     10512   AU=CLARK A?
S16         3   S9 AND S10 AND S13:S15

 12/6/1     (Item 1 from file: 5)
0014698269   BIOSIS NO.: 200400069026
Systems devices and methods for opening receptacles having a powder to
  be fluidized
2003

 12/6/2     (Item 2 from file: 5)
0014268370   BIOSIS NO.: 200300227089
Dry powder dispersing apparatus and methods for their use
2003

 16/6/1     (Item 1 from file: 5)
0014698269   BIOSIS NO.: 200400069026
Systems devices and methods for opening receptacles having a powder to
  be fluidized
2003

 16/6/2     (Item 2 from file: 5)
0014268370   BIOSIS NO.: 200300227089
Dry powder dispersing apparatus and methods for their use
2003

 16/6/3     (Item 3 from file: 5)
0013214918   BIOSIS NO.: 200100386757
Dry powder dispersing apparatus and methods for their use
2001
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File 155:MEDLINE(R) 1966-2004/Feb W1
File   5:Biosis Previews(R) 1969-2004/Feb W1
File  73:EMBASE 1974-2004/Feb W1
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W1
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 144:Pascal 1973-2004/Feb W1
File  19:Chem.Industry Notes 1974-2004/ISS 200405
File  42:Pharmaceuticl News Idx 1974-2004/Feb W1
File 285:BioBusiness(R) 1985-1998/Aug W1
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
File 286:Biocommerce Abs.& Dir. 1981-2004/Jan B1
File  94:JICST-EPlus 1985-2004/Feb W1
File  74:Int.Pharm.Abs 1970-2004/Jan B2
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Jan
File  65:Inside Conferences 1993-2004/Feb W2
Set     Items   Description
S1     378069   POWDER??
S2    6933998   MEDICAMENT? OR MEDICATION? OR MEDICINE
S3   10247133   DRUG OR DRUGS
S4     827883   PHARMACEUTICAL? ?
S5        866   (BLISTER OR BUBBLE)()(PACK? ? OR PACKET? ? OR PAK? ? OR SH-
               EET? ?)
S6     195842   RECEPTACLE? ? OR CONTAINER? ? OR HOLDER? ?
S7    1846565   BOTTOM? ? OR UNDERSIDE? ? OR UNDER()SIDE? ? OR BASE OR BAS-
               ES
S8    1286870   CONVEX OR CONCAVE OR RAISED OR INDENTED OR ELEVATED
S9     187514   BOWED OR ARCUATE? ? OR ARCUAL OR ARCIFORM OR ARC OR ARCLIKE
              OR ARCHED OR BOWLIKE
S10    84254   INVERTED OR EVERTED
S11      515   S1(5N)S2
S12     6260   S1(5N)S3
S13     4394   S1(5N)S4
S14       10   S11:S13 AND S5
S15        0   S14 AND S8:S10
S16        1   S14 AND S7
S17        9   S14 NOT S16
S18        7   RD (unique items)
S19        5   S18/2000:2004
S20        2   S18 NOT S19
S21      132   (S11:S13 AND S6) NOT S14
S22    31803   S7(S)S8:S10
S23        0   S21 AND S22
S24        7   S21 AND S7:S10
S25        7   RD (unique items)
S26        4   S25/2000:2004
S27        3   S25 NOT S26

20/7,K/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
0012201120   BIOSIS NO.: 199900460780
Prevention of exercise-induced bronchospasm in pediatric asthma patients: A
  comparison of two salmeterol powder delivery devices
AUTHOR: Bronsky Edwin A (Reprint); Pearlman David S; Pobiner Bonnie F;
  Scott Catherine; Wang Yonghua; Stahl Edmundo
AUTHOR ADDRESS: Intermountain Clinical Research, 150 S, 1000 E, Salt Lake
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City, UT, 84102, USA**USA
JOURNAL: Pediatrics 104 (3 PART 1): p501-506 Sept., 1999 1999
MEDIUM: print
ISSN: 0031-4005
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Background: A powder formulation of salmeterol has been shown to prevent exercise-induced bronchospasm (EIB) in asthmatic children and adults; however, the delivery device (Diskhaler; Glaxo Wellcome Inc, Research Triangle Park, NC) must be reloaded after 4 doses. A new multidose powder inhaler (Diskus) provides 60 doses of salmeterol in a **blister pack** presentation with a dose counter. Objective: To evaluate the safety and efficacy of 50-mug salmeterol powder via two different delivery systems (Diskhaler and Diskus) in preventing EIB in asthmatic children. Study Design: A randomized, double-blind, double-dummy, single-dose, placebo-controlled, three-way crossover study was conducted in 24 children 4 to 11 years of age demonstrating EIB and mild to moderate asthma. Serial forced expiratory volume in 1 second (FEV1) was measured before and after treadmill exercise challenges conducted at 1, 6, and 12 hours after study drug administration. Adverse events were also assessed. Results: During all exercise challenges, EIB-mediated reductions in FEV1 were minimized or prevented in patients receiving single doses of salmeterol powder compared with placebo. Single doses of salmeterol powder delivered via either system were equally effective in preventing EIB. There were no drug-related adverse events, cardiovascular, or other clinically relevant safety concerns. Conclusions: Single doses of salmeterol powder delivered by either delivery system are safe and effective in preventing EIB for gtoreq12 hours in asthmatic children.
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ...antiasthmatic-drug, beta-adrenergic antagonist- **drug** , dosage, efficacy, safety, **powder** formulation
...METHODS & EQUIPMENT: **drug** delivery device, medical equipment, multidose **powder** inhaler

20/7,K/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

07663613 EMBASE No: 1999127705
Paracetamol-propyphenazone interaction and formulation difficulties associated with eutectic formation in combination solid dosage forms
Zalac S.; Khan M.Z.I.; Gabelica V.; Tudja M.; Mestrovic E.; Romih M.
M.Z.I. Khan, Research Institute, PLIVA d.d., Prilaz baruna Filipovica 25, 10000 Zagreb Croatia
Chemical and Pharmaceutical Bulletin (CHEM. PHARM. BULL.) (Japan) 1999 , 47/3 (302-307)
CODEN: CPBTA ISSN: 0009-2363
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 14
Polymorphic behaviours of paracetamol and propyphenazone and interaction between these two compounds were investigated using differential scanning calorimetry (DSC), X-ray powder diffraction and Fourier transform-infrared (FT-IR)-spectroscopy. Binary mixtures containing various ratios of the compounds were prepared as physical and fused mixtures and analysed by DSC

to study their thermal behaviours. Phase diagrams obtained from the melting endotherms of the binary mixtures demonstrated formation of an eutectic mixture at a paracetamol-propyphenazone combination of about 35: 65 (w/w) with an eutectic temperature of 56 degreeC. The FT-IR spectroscopy revealed no chemical interaction due to eutectic formation, and a lower degree of crystallinity of the eutectic mixture than individual substances was observed by X-ray powder diffraction analysis. The DSC and X-ray powder diffraction data demonstrated a polymorphic change in propyphenazone as a result of melting of the compound. Tablets, containing both paracetamol and propyphenazone in a combination formulation and prepared using standard wet granulation technology, were found to have physical instability when packed in either polyvinylchloride//aluminium or polyvinylchloride/polyvinyldienechloride//aluminium blisters and stored for one month at 40 degreeC with either 75% relative humidity or without any humidity control. The instability of the tablets was more apparent under the high humidity condition.
MEDICAL DESCRIPTORS:
tablet; differential scanning calorimetry; X ray **powder** diffraction; infrared spectroscopy; temperature; **drug** granulation; drug stability; drug packaging; **blister pack** ; article

27/6/1 (Item 1 from file: 5)
0011720883 BIOSIS NO.: 199800515130
Minitabletting: Improving the compactability of paracetamol powder mixtures
1998

27/7,K/2 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

12687120 PASCAL No.: 96-0388215
The adhesion force of micronized Salmeterol Xinofoate particles to pharmaceutically relevant surface materials
PODCZECK F; NEWTON J M; JAMES M B
Department of Pharmaceutics, The School of Pharmacy, University of London, 29/39 Brunswick Square, London WC1N 1AX, United Kingdom
Journal: Journal of physics. D. Applied physics, 1996, 29 (7) 1878-1884
ISSN: 0022-3727 CODEN: JPAPBE Availability: INIST-5841; 354000044280260210
No. of Refs.: 45 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
The adhesion of micronized Salmeterol Xinafoate to various surface materials has been investigated by the centrifuge technique. The adhesion of the drug to these materials used for manufacture and storage of interactive mixtures of the drug and milled lactose monohydrate depends on different properties of the surfaces. A longer contact with polyvinylchloride, polyethylene or aluminium surfaces, or a contact with these surfaces under mechanical pressure should be avoided because the adhesion force between the drug and these surfaces is much higher than between the drug and excipient particles. Hence detachment and a consequent loss of drug in the formulation could occur. Such a problem does not appear to exist for the contact with polyhydroxymethylene surfaces. Characteristics of the surface materials such as the surface free energy (acid- **base** concept), surface roughness and Young's modulus were determined and related to the experimental results. The work of adhesion

appeared to have a very important influence on the adhesion forces measured. About 20% of the work of adhesion was due to acid- **base** interactions. The larger the work of adhesion, the stronger was the adhesion between the particles and the surfaces in contact. Surface roughness reduced the adhesion force, and stiffer materials (having a high Young's modulus) were found to have a lower adhesion force to the drug particles.
English Descriptors: Micronization; Adhesion; Particle; Powder; Contact surface; **Container** content interaction; Storage **container** ; **Powder** production; Packaging; **Pharmaceutical** technology; Plastics; Vinyl chloride copolymer; Polyethylene; Lactose; Aluminium; Physicochemical properties; Roughness; Hardness

27/7,K/3 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus
(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.
00583114 JICST ACCESSION NUMBER: 88A0199349 FILE SEGMENT: JICST-E
Packaging machine for powder and revision of packaging conditions.
YUNOKI MINORU (1)
(1) Tokyo Tanabe Co., Ltd.
Hoso Gijutsu(JPI Journal), 1988, VOL.26,NO.2, PAGE.133-137, FIG.6, TBL.3
JOURNAL NUMBER: G0839AAS ISSN NO: 0385-728X
UNIVERSAL DECIMAL CLASSIFICATION: 615.014.8
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication
ABSTRACT: Up until now it has been inevitable in the medical field to have many different kinds of poducts in small lots. Our company gives an example of this type of situation. The unbalance in the poduction **base** between production and sales is based on this reason. In order to discard this system and achieve efficient manufacturing, there is a prossing need for a drive toward "Standardization of Packaging". Standardization Fundamental Policy (Conditions) 1. The quality and safety of the pharmaceuticals must be insured. 2. Serious examination of consumption (User's needs), market research 3. Legality, Cost Reduction (Objectives) 1. Compact 2. Lightwcight 3. Efficient.(author abst.)
...DESCRIPTORS: **powder** (**pharmaceuticals**);
...BROADER DESCRIPTORS: **container** ; ...
...plastic **container** ; ...
...paper **container**

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File   9:Business & Industry(R) Jul/1994-2004/Feb 09
File  16:Gale Group PROMT(R) 1990-2004/Feb 10
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2004/Feb 10
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Feb 10
File 129:PHIND(Archival) 1980-2004/Feb W1
File 149:TGG Health&Wellness DB(SM) 1976-2004/Feb W1
File 135:NewsRx Weekly Reports 1995-2004/Feb W1
Set     Items   Description
S1     179236   POWDER??
S2     768039   MEDICAMENT? OR MEDICATION? OR MEDICINE
S3    1630448   DRUG OR DRUGS
S4    1511160   PHARMACEUTICAL? ?
S5       7917   (BLISTER OR BUBBLE)()(PACK? ? OR PACKET? ? OR PAK? ? OR SH-
             EET? ?)
S6     795279   RECEPTACLE? ? OR CONTAINER? ? OR HOLDER? ?
S7    2247919   BOTTOM? ? OR UNDERSIDE? ? OR UNDER()SIDE? ? OR BASE OR BAS-
             ES
S8     709265   CONVEX OR CONCAVE OR RAISED OR INDENTED OR ELEVATED
S9      90974   BOWED OR ARCUATE? ? OR ARCUAL OR ARCIFORM OR ARC OR ARCLIKE
              OR ARCHED OR BOWLIKE
S10     15761   INVERTED OR EVERTED
S11      3086   S1(5N)S2:S4
S12     17905   S7(S)S8:S10
S13         0   S5(S)S11(S)S12
S14         0   S5 AND S11 AND S12
S15         0   S6(S)S11(S)S12
S16        16   S5(S)S11
S17   2924219   S7:S10
S18         2   S16(S)S17
S19         2   RD (unique items)
S20        14   S16 NOT S18
S21        10   RD (unique items)
S22         2   S21/2000:2004
S23         8   S21 NOT S22
S24         8   Sort S23/ALL/PD,A
S25         1   S11(S)S12
S26         0   S6 AND S25
S27        78   S6(S)S11 NOT S16
S28         5   S17(S)S27
S29         5   RD (unique items)

 19/3,AB,K/2     (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.
10527958     SUPPLIER NUMBER: 21210180    (USE FORMAT 7 OR 9 FOR FULL TEXT)
Blister-packs deliver a deep breath of relief. (Inhale Therapeutic Systems)
Nix-Ennen, Steven
Packaging Digest, v35, n10, p64(2)
Sept, 1998
ISSN: 0030-9117      LANGUAGE: English      RECORD TYPE: Fulltext; Abstract
WORD COUNT:   1633    LINE COUNT:  00131
ABSTRACT:  Inhale Therapeutic Systems has pioneered the development of new
non-invasive pulmonary drug delivery systems. These products allow patients
to do away with injections as medications are administered through
inhalations. Crucial to this new technology are foil-to-foil blister packs
```

containing peptides, proteins and other drug molecules. The blister packs protect drug doses that are inserted in small, flashlight-devices. Medication is released into the devices' holding chambers when the blister packs are punctured. Patients then inhale the drugs through a mouthpiece placed at the top of the chamber.
... be replaced after several uses, to ensure cleanliness.
In the working of the mechanism, the **blister pack** is punctured by the transjector and released in what Smith calls a "bulk flow process...
...and a central PS-based punch that is essentially a vacuum hose to evacuate the **powdered drug** . The **pharmaceuticals** are transported through the transjector and disassembled into the constituent small particles. This develops an...
...makes tens of thousands of transjectors, but the process of placing the mechanism in the **base** is still completed by hand in San Carlos.
The pump assembly that powers the aerosol...

24/3,AB,K/1 (Item 1 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.
01968246
Packaging news: Anderson Packaging to build new plant
Household & Personal Products Industry July, 1988 p. 148
ISSN: 0090-8878
Anderson Packaging (Rockford, IL), a contract packager, will build a 92,000 sq ft plant in Rockford, IL, which will feature 7 separate packaging rooms housing proprietary equipment in environmentally controlled conditions. Anderson opened a 72,000 ft2 plant in Greensboro, NC, in 1/88. The firm fills **blister packs** , pouches, and thermoforms with tablets, capsules, liquids, **powders** and ointments, mainly for the **pharmaceutical** and personal care product industries. Anderson currently operates 3 other packaging plants in Rockford, IL.

24/3,AB,K/3 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.
03881853 Supplier Number: 45581440
New Technology Overcomes the Lung's Barrier by Addressing the Rate-Limiting Step
Genesis Report-Rx, v4, n4, pN/A
June 1, 1995
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 735
... make superfine powders in the 1-to-5-micron range, considered "nuisance dusts" by some **pharmaceutical** manufacturers. These **powders** are extremely moisture sensitive and require packaging in individual dose, foil-lined **blister packs** .
A patient inserts the **blister pack** of powder into a specially designed aerosol gun and cocks and fires the device, dispersing...
...lung. The Inhale Therapeutics device relies on the physical power of the gun popping the **blister pack** to release the **powdered drug** . The device does not use chloroflurocarbons (CFCs), which have been banned as propellants in the...

24/3,AB,K/5 (Item 5 from file: 9)
DIALOG(R)File 9:Business & Industry(R)

(c) 2004 Resp. DB Svcs. All rts. reserv.
2201834 Supplier Number: 02201834
Product launches...Flovent Rotadisk
(Glaxo Wellcome launches Flovent Rotadisk, inhaled corticosteroid indicated as preventive therapy for treating asthma in young children)
Med Ad News, v 17, n 7, p 88
July 1998
DOCUMENT TYPE: Journal ISSN: 0745-0907 (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 110
TEXT:
...Wellcome Inc. of Research Triangle Park, N.C., is a foil-covered disk containing four **blister packs** of **powdered medication** . Once loaded into the specially designed Diskhaler device, the blister can be pierced and a...

24/3,AB,K/6 (Item 6 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.
06095715 Supplier Number: 53647033
Inhale Therapeutic Systems Announces Fourth Quarter and Year Ended 1998 Financial Results.
Business Wire, p0359
Jan 26, 1999
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1353
... handling technologies. Included under the patent is the process of transferring fine powder particles into **blister packs** in an un-compacted state so that they can be easily dispersed in Inhale's...
...covered in this patent enables very precise filling of unit dose amounts of a dry **powder pharmaceutical drug** . Today, Inhale's filling capability can accommodate a variety of fill sizes and sufficient dosages...

25/6/1 (Item 1 from file: 9)
1399029 Supplier Number: 01399029 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Technology: Needle work - Richard Gourlay on two disposable injectors that push drugs through the skin
February 02, 1996
WORD COUNT: 994

29/8/2 (Item 1 from file: 148)
DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.
05212186 SUPPLIER NUMBER: 10615302 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Mixing and blending.
Jan, 1991
WORD COUNT: 1875 LINE COUNT: 00149
SPECIAL FEATURES: illustration; photograph
INDUSTRY CODES/NAMES: CHEM Chemicals, Plastics and Rubber; ENG Engineering and Manufacturing; INTL Business, International
DESCRIPTORS: Chemical industry--Equipment and supplies; Cosmetics industry--Equipment and supplies; Pharmaceutical industry--Equipment and supplies
SIC CODES: 2800 CHEMICALS AND ALLIED PRODUCTS; 2844 Toilet preparations ; 2834 Pharmaceutical preparations

29/3,AB,K/3 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

04102616 SUPPLIER NUMBER: 07934219 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Italian machinery. (Packintec '89 product preview) (New Products Marketplace special issue) (buyers guide)
Packaging (Boston, Mass.), v34, n12, p6(4)
Fall, 1989
DOCUMENT TYPE: buyers guide ISSN: 0746-3820 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 1977 LINE COUNT: 00159
... packages, Circle 200 on the Reader Service Card. Bottle-filling line handles plastic or glass **containers** . The Coriani RCCA 16/8-300 system for liquid products emphasizes advanced automation of all...
...demands of a high-quality package combined with a moderate investment in equipment. Brick-shaped **containers** of flexible and air-tight material are convenient and highly space-saving. The system adjusts...
...capsule fillers with output to 5,000/hour; and a line of microdosing machines for **pharmaceutical powders** . Nuova Zanasi S.p.A. Circle 210 Italian packaging-machinery industry data is available. From...also features bottle lifts which are driven upward instead of being pushed up from the **bottom** . These are located inside the filling carousel in a suitable place so that splashes or...

```
File 187:F-D-C Reports 1987-2004/Feb W1
File 429:Adis Newsletters(Archive) 1982-2004/Feb 10
File 441:ESPICOM Pharm&Med DEVICE NEWS 2004/Feb W2
File 446:IMS New Product Focus 1982-2004/Jan
File 455:Drug News & Perspectives 1992-2004/Jan
File 481:DELPHES Eur Bus 95-2004/Jan W1
File 635:Business Dateline(R) 1985-2004/Feb 07
File 636:Gale Group Newsletter DB(TM) 1987-2004/Feb 10
File 229:Drug Info. Fulltext 2002
File  98:General Sci Abs/Full-Text 1984-2004/Jan
Set     Items   Description
S1      65146   POWDER??
S2     184448   MEDICAMENT? OR MEDICATION? OR MEDICINE
S3     454455   DRUG OR DRUGS
S4     315351   PHARMACEUTICAL? ?
S5       2713   (BLISTER OR BUBBLE)()(PACK? ? OR PACKET? ? OR PAK? ? OR SH-
             EET? ?)
S6     132887   RECEPTACLE? ? OR CONTAINER? ? OR HOLDER? ?
S7     571073   BOTTOM? ? OR UNDERSIDE? ? OR UNDER()SIDE? ? OR BASE OR BAS-
             ES
S8     242340   CONVEX OR CONCAVE OR RAISED OR INDENTED OR ELEVATED
S9      17997   BOWED OR ARCUATE? ? OR ARCUAL OR ARCIFORM OR ARC OR ARCLIKE
            OR ARCHED OR BOWLIKE
S10      4013   INVERTED OR EVERTED
S11      1202   S1(5N)S2:S4
S12         3   S11(S)S5
S13        97   S11(S)S6 NOT S12
S14      5283   S7(S)S8:S10
S15         0   S12 AND S14
S16         3   S13 AND S14
S17         3   RD (unique items) [not relevant]
S18         6   S11 AND S5
S19         3   S18 NOT (S12 OR S17)
S20        14   S13(S)S7:S10
S21        12   S20 NOT (S12 OR S17 OR S18)
S22        12   RD (unique items)
S23         1   S22/2000:2004
S24        11   S22 NOT S23
S25        11   Sort S24/ALL/PD,A

12/3,AB,K/3     (Item 3 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.
02750416    Supplier Number: 45581440
New Technology Overcomes the Lung's Barrier by Addressing the Rate-Limiting
  Step
Genesis Report-Rx, v4, n4, pN/A
June 1, 1995
Language:  English    Record Type:  Fulltext
Document Type: Newsletter; Trade
Word Count:   735
...     make superfine powders in the 1-to-5-micron range, considered
"nuisance dusts" by some pharmaceutical manufacturers. These powders
are extremely moisture sensitive and require packaging in individual dose,
foil-lined blister packs .
     A patient inserts the blister pack of powder into a specially
```

designed aerosol gun and cocks and fires the device, dispersing...
...lung. The Inhale Therapeutics device relies on the physical power of the gun popping the **blister pack** to release the **powdered drug** . The device does not use chloroflurocarbons (CFCs), which have been banned as propellants in the...

19/8/3 (Item 1 from file: 636)
DIALOG(R)File 636:(c) 2004 The Gale Group. All rts. reserv.
05545682 Supplier Number: 100976671 (USE FORMAT 7 FOR FULLTEXT)
GT&F Dietary Supplement - Milk Powder ; **Capsule MANUFACTURER: Ren Jih Biotechnology &** Pharmaceutical **Co., Ltd. CATEGORY: 363 - Vitamins & Supplements.**
April 28, 2003
Word Count: 99
PUBLISHER NAME: Marketing Intelligence Service Ltd.
INDUSTRY NAMES: ADV (Advertising, Marketing and Public Relations); BUSN (Any type of business)

19/3,AB,K/1 (Item 1 from file: 441)
DIALOG(R)File 441:ESPICOM Pharm&Med DEVICE NEWS
(c) 2004 ESPICOM Bus.Intell. All rts. reserv.
00015022 00016599 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Inhale announces first results of Phase IIb inhaled insulin trials
Medical Industry Week
19 June 1998 (19980619)
RECORD TYPE: FULLTEXT WORD COUNT: 868
COMPANY: Inhale Therapeutic Systems; Pfizer
TEXT:
...clinical trials."
Using the Inhale system, a patient takes a slow, deep inhalation of fine-**powdered medicine** rather than receiving an injection. The Inhale device is designed to efficiently disperse the powders...
...wide variety of patient lung capacities.
The fine-powdered insulin is packaged into individual dosage (**blister**) **packs** whose particles are specifically formulated to reach the deep lung, where the drug is quickly...

25/3,AB,K/2 (Item 2 from file: 187)
DIALOG(R)File 187:F-D-C Reports
(c) 2004 F-D-C Reports Inc. All rts. reserv.
00096772 F-D-C Accession Number 00550510011
The Pink Sheet
December 20, 1993
Volume 55, Issue 51
McGaw wins appeal of V-A 's $130 mil. I.V. products contract.
... because the company has refined the manufacturing process for its Excel I.V. non-polyvinyl **container** (PVC) system. Baxter has been barred from government contracts by the V-A ("The Pink...
...V. non-PVC technology.
The Duplex system includes a compartment containing diluent, another compartment with **powdered drug** and an empty portion at the **bottom** of the I.V. bag. Schaefer said the system works "by taking hand pressure" to...

25/3,AB,K/5 (Item 5 from file: 229)
DIALOG(R)File 229:Drug Info. Fulltext
(c) 2002 Ameri.Soc.of Health-Systems Pharm. All rts. reserv.

00999693 AHFS NO: 12.12 AHFS CLASS: Sympathomimetic (Adrenergic) Agents
SUBFILE: AHFS Drug Information
MONOGRAPH TITLE: Salmeterol Xinafoate
GENERIC NAME: Salmeterol Xinafoate
MOLECULAR FORMULA: C25H37NO4betaC11 H8O3
INVESTIGATIONAL NO: GR 33343 G; SN 408
BRAND NAME/MANUFACTURER: Serevent/GlaxoSmithKline; Serevent Diskus/ GlaxoSmithKline; Advair/GlaxoSmithKline
CAS REGISTRY NO: 94749-08-3
Subsections: [3224]_Asthma; [3224]_Exercise-induced Bronchospasm; [3224]_Chronic Obstructive Pulmonary Disease; [3574]_Administration; [3524]_Dosage; [3506]_Asthma; [3506]_Exercise-induced Bronchospasm; [3506]_Chronic Obstructive Pulmonary Disease; [3564]_Dosage in Renal and/or Hepatic Impairment; [3604]_Cardiovascular Effects; [3604]_Nervous System Effects; [3604]_Respiratory Effects; [3604]_GI Effects; [3604]_Metabolic and Electrolyte Effects; [3604]_Musculoskeletal Effects; [3604]_Dermatologic and Sensitivity Reactions; [3604]_Other Adverse Effects ; [3644]_Precautions and Contraindications; [3644]_Pediatric Precautions; [3644]_Geriatric Precautions; [3664]_Mutagenicity and Carcinogenicity; [3654]_Pregnancy, Fertility, and Lactation; [3774]_Monoamine Oxidase Inhibitors and Tricyclic Antidepressants; [3774]_Short-Acting beta2-Adrenergic Agonists; [3774]_Corticosteroids and Cromolyn Sodium; [3774]_Theophyllines; [3774]_beta-Adrenergic Blocking Agents; [3774]_Other Drugs; [3614]_Pathogenesis; [3614]_Manifestations; [3684]_Treatment; [3204]_Respiratory Effects; [3204]_Cardiovascular Effects; [3204]_Metabolic Effects; [3204]_Other Effects; [3814]_Absorption; [3824]_Distribution; [3834]_Elimination; [3104]_Chemistry; [3304]_Stability; [3404]_Salmeterol Xinafoate; [3404]_Salmeterol Xinafoate Combinations
DOSAGE AND ADMINISTRATION (DO):
...use by spraying into the air 4 times before the first use and whenever the **container** has not been used for prolonged periods (i.e., more than 4 weeks).(1) After the patient exhales slowly and completely,(112,113,125,156) the inhaler should be **inverted** and the mouthpiece of the inhaler placed well into the mouth with the lips closed...
...held in a level, horizontal position; the lever pierces the foil blister and releases the **powdered drug** into an exit port.(188,189) To avoid releasing and wasting additional doses of the...
... strip in the Serevent Diskus device contains 50 mcg of salmeterol as salmeterol xinafoate inhalation **powder** , the precise amount of **drug** delivered to the lungs with each activation of the Diskus device depends on factors such...

File 240:PAPERCHEM 1967-2004/Feb W1
File 248:PIRA 1975-2004/Jan W4
File 252:Packaging Sci&Tech 1982-1997/Oct

Set	Items	Description
S1	10881	POWDER??
S2	1828	MEDICAMENT? OR MEDICATION? OR MEDICINE
S3	5060	DRUG OR DRUGS
S4	10525	PHARMACEUTICAL? ?
S5	2703	(BLISTER OR BUBBLE)()(PACK? ? OR PACKET? ? OR PAK? ? OR SHEET? ?)
S6	86995	RECEPTACLE? ? OR CONTAINER? ? OR HOLDER? ?
S7	50728	BOTTOM? ? OR UNDERSIDE? ? OR UNDER()SIDE? ? OR BASE OR BASES
S8	9056	CONVEX OR CONCAVE OR RAISED OR INDENTED OR ELEVATED
S9	1471	BOWED OR ARCUATE? ? OR ARCUAL OR ARCIFORM OR ARC OR ARCLIKE OR ARCHED OR BOWLIKE
S10	947	INVERTED OR EVERTED
S11	72	S1(5N)S2:S4
S12	3	S11 AND S5
S13	**3**	**RD (unique items)**
S14	15	S11 AND S6
S15	15	S14 NOT S12
S16	15	RD (unique items)
S17	2	S16/2000:2004
S18	13	S16 NOT S17
S19	**3**	**S18 AND S7:S10**
S20	**10**	**S18 NOT S19**

13/7/1 (Item 1 from file: 248)
DIALOG(R)File 248:PIRA
(c) 2004 Pira International. All rts. reserv.
00521314 Pira Acc. Num.: 20122134
Title: Blister - packs **deliver a deep breath of relief**
Authors: Nix-Ennen S
Source: Packag. Dig. vol. 35, no. 10, Sept. 1998, pp 64, 66
ISSN: 0030-9117
Publication Year: 1998
Document Type: Journal Article
Language: English
Pira Subfiles: International Packaging Abstracts (PK)
Journal Announcement: 9901
Abstract: Inhale Therapeutic Systems, USA, is developing foil **blister packs** and delivery devices for administring a non-invasive pulmonary drug delivery system which is absorbed through patient inhalation. Foil-to-foil **blister packs** from Lawson Mardon Wheaton are used to carry and protect pre-measured doses of the dry **powdered** peptide and protein **drugs** . A small flashlight sized device is used to puncture the packs ready for inhalation. The **construction and formation of the blister packs is described, together with the proprietary filling method used to process the pharmaceuticals in dry form.**

13/7/2 (Item 2 from file: 248)
DIALOG(R)File 248:PIRA
(c) 2004 Pira International. All rts. reserv.
00388172 Pira Acc. Num.: 20011410
Title: DRY POWDER DEVICES FOR ASTHMA

Authors: Shepherd M T
Source: Paper presented at Role of Packaging in Drug Delivery (Packs and Devices) held at Loughborough, UK, 8 Mar. 1994, 8pp [Melton Mowbray, UK: Institute of Packaging, 1994, #85.00 (621.798.4:615.4)(9725)
Publication Year: 1994
Document Type: Conference Publication
Language: English
Pira Subfiles: International Packaging Abstracts (PK)
Journal Announcement: 9409
Abstract: Dry **powder** devices for delivery of asthma **drugs** , including blister, capsule, unit dose and multidose (both bulk powder and premetered) are reviewed. Capsules are biodegradable and delivery devices are reusable. There are problems of moisture variability, and difficulties with piercing. The four main devices in the group (Spinhaler, Rotahaler, Cyclohaler and Inhalator) are described. The only blister packed cartridge is the Diskhaler. The Turbuhaler is the most widely used bulk powder multidose system. Many multidose dry powder inhaler patents exist, but many will be eliminated following testing. Three that look likely to be commercialised are the Bandolier device (using a strip of premetered individual doses), the pressurised device, and the rotary planer. The impacts of the medical device and the packaging and packaging waste directives are discussed.

13/7/3 (Item 1 from file: 252)
DIALOG(R)File 252:Packaging Sci&Tech
(c) 1997 by Fraunhofer-ILV, Germany. All rts. reserv.
028939 90-06-j0012
Flex-packs win seal of approval.
(Flexible Packmittel gewinnen Beifall.)
Anon.
Packaging Digest, 1990, 27, (4), 90, 91, 94, 99, 100 ISSN: 0030-9117
Language: En
Procor Technologies' **dual-compartment pouch for a powder/liquid animal medication** won the President's Award in the Flexible Packaging Association's 1989 competition. The Consumer's Choice Award went to retorted packages for a Plumrose pate and C+D Foods Ltd.'s Viff Chat cat food, manufactured for Carrefour, that represent the 1st commercial use of a PLM Ultrapac system. Other awards went to a new style of blister pack for children's Tylenol from Alusuisse Flexible Packaging, the package for Magic Middles cookies from American National Can, the Bird's Eye Custom Cuisine and Prepco Super Snax packages from Printpack, the Cue-Pon and Sealing Strip bags for supermarket bakeries from Bagcraft Corp., Hunt's Minute Gourmet lined cooking bag, and Union Camp's Rip-N-Zip reclosable multi-wall bag. (10 fig.) (KME)

19/7,K/1 (Item 1 from file: 240)
DIALOG(R)File 240:PAPERCHEM
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.
00261035 PAPERCHEM NO: AB5906654
Collapsible Containers
Walton, D.; Walton Industrial Containers Ltd
PATENT NUMBER: GB 2192383 PATENT DATE: 880113
PATENT APP# - DATE OF APPLICATION
GB 8715659 - 870703
GB 8616555 - 860708
SOURCE: Brit. pat. 2,192,383. Issued Jan. 13, 1988. 10 claims. 6 p.

Filed: Brit. appln. 15,659/87 (July 3, 1987). Priority: Brit. appln. 16,555/86 (July 8, 1986).
PUBLICATION YEAR: 1988
DOCUMENT TYPE: PATENT
LANGUAGES: ENGLISH

A **container** is made of a boxlike carcass of a flexible material including four sides and a **base** . Two opposed sides of the carcass house rigid panels (e.g., of fiberboard or hardboard) which form a first pair of opposed sidewalls of the **container** . A pair of envelopes (e.g., of woven PP), each of which contains a rigid panel, are pivotal within the carcass between operative positions in which they overlie one of the panels forming the first pair of opposed sidewalls. For storage, the pivotal envelopes can be folded into a position in which the four rigid panels overlie one another with the other two opposed sides of the carcass located there between. The **container** is suitable for packaging bulk quantities of granular or **powdery** materials, **pharmaceutical** materials, or tobacco.

19/7,K/2 (Item 2 from file: 240)
DIALOG(R)File 240:PAPERCHEM
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.
00228464 PAPERCHEM NO: AB5703323
Composite Paper Cans with Spirally Wound Walls
Palenik, K.; Nassalski, A
SOURCE: Przeglad Papier. no. 1: 21-26 (Jan. 1986). [Pol.]
PUBLICATION YEAR: 1986
DOCUMENT TYPE: JOURNAL ARTICLE
LANGUAGES: POLISH

Composite paper cans are increasingly used in industrialized countries, even if their production cost is equal to (or not much lower than) that of metal cans. This is due to the special advantages of these cans, the possibility of manufacturing them at plants producing the products to be packaged, and (in many cases) the necessity of reducing the consumption of sheet metal. The most widely used in Europe are cans with spirally wound walls, metal **bottom** , and either metal or plastic cover. A description is given of the various types of paper cans, the methods of forming their walls, and their packaging applications (**powdered** food products, chemicals, **pharmaceuticals** , etc.). The advantages of paper cans and their limitations are discussed, and tables are presented showing the composition and properties of papers used for the internal, intermediate, and external layers of the cans, of paper laminates used for the walls, and of adhesives used in spiral winding. Also discussed are the types of **bottoms** , lids, and closures for composite paper cans. (5 fig., 5 tab.)

19/7,K/3 (Item 1 from file: 248)
DIALOG(R)File 248:PIRA
(c) 2004 Pira International. All rts. reserv.
00040249 Pira Acc. Num.: 1133600 Pira Abstract Numbers: 03-76-03600
Title: COMPOSITE PACKAGING MATERIALS: WHY DO THEY EXIST?
Authors: Paine F A
Source: 16th Eucepa Conference 'Paper and Board Based Composite Materials for Packaging' Grenoble 22-25 Mar 1976 paper no 1 13 pp (PM 3162D)
Publication Year: 1976
Document Type: Journal Article
Language: unspecified
Pira Subfiles: International Packaging Abstracts (PK)

Journal Announcement: 7611
Abstract: Composite **containers** exist because no single media is capable on its own of performing all the functions required of a package in modern society, particularly when costs are taken into consideration. The composite **container** is traditionally a spirally wound/convolutely wound/lap seam paper **container** , generally cylindrical in shape and ranging in size from 10-200 mm dia. They can be of almost any length but are sealed top and **bottom** with a closure of metal, paperboard or plastics. First applications were for cocoa, **drugs** , **powders** etc. but they are now used for such varied products as fruit juices, oils and sports goods. Most **containers** are now spirally wound, as with this process films, foils and special adhesives may be used in the make-up of the material during winding to provide the exact amount of protection required for a specific end-use.

20/6/4 (Item 1 from file: 248)
00559255 Pira Acc. Num.: 20159387
Title: Finishing the packaging with closures
Publication Year: 1999

20/6/6 (Item 3 from file: 248)
00183186 Pira Acc. Num.: 8530999 Pira Abstract Numbers: 03-89-00516
Title: PFIZER FOLLOWS THE DOTTED LINE
Publication Year: 1988

20/6/8 (Item 5 from file: 248)
00050763 Pira Acc. Num.: 3231140 Pira Abstract Numbers: 03-80-01140
Title: NEUMO-ALITE AIM FOR TOP FILLING MACHINERY SPOT
Publication Year: 1980

20/6/10 (Item 1 from file: 252)
036157 93-03-f0019
(Packages made of PP and PET - produced using RBU technology.)
Verpackungen aus PP und PET - gefertigt mit RBU-Technologie. 1993,

20/7,K/1 (Item 1 from file: 240)
DIALOG(R)File 240:PAPERCHEM

00507856 PAPERCHEM NO: AB6512120
Pharmaceutical [Packaging News] Round-up: Union of Companies Will Meet Global Aims
SOURCE: Packag. Week 10, no. 26: 34 (November 24, 1994). [Engl.]
PUBLICATION YEAR: 1994
DOCUMENT TYPE: JOURNAL ARTICLE
LANGUAGES: ENGLISH
The formation of the Bowater Pharmaceutical Packaging international division, which comprises Cope Allman Plastics, Rondo, Bowater Pharmaceutical (Ireland), Causton Cartons, and the pharmaceutical holdings of DRG Medical Packaging, is described. The standard range of tamper-evident HDPE **containers** for over-the-counter and alternative health-care products has been extended at Jaycare in North Shields. RPC **Containers** Market Rasen has developed an alternative to foam and cotton wool as ullage fillers for tablet bottles. Beatson Clark of Rotherham is promoting the use of lightweight round bottles made of amber glass for pharmaceutical supplies and replaced the R6 neck finish with an R3 standard. A dry **powder** inhaler for pulmonary administration of

medications has been developed by the Valois-Pharm division of Perfect-Valois in Milton Keynes. Bibby Sterilin has designed a new HDPE bottle, the Azlon pharmaceutical bottle. To meet the European directive involving CFC emissions, Helvoet has changed to a freon-exempt siliconization treatment for rubber components.
DESCRIPTORS: BOTTLES; CLOSURES; **CONTAINERS** ; DRUGS; ENGLISH; HIGH DENSITY POLYETHYLENE; MEDICAL SURGICAL SUPPLIES; PACKAGING MATERIALS; PCKG; POLYETHYLENE; SAFETY CLOSURES; TAMPER...

20/7,K/2 (Item 2 from file: 240)
DIALOG(R)File 240:PAPERCHEM
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.
00329205 PAPERCHEM NO: AB6410694
Method of Producing Packaging Boxes and Packaging Boxes Obtained with this Method
Romagnoli, A.
PATENT ASSIGNEES: Cestind-Centro Studi Industriali-Srl. (San Pietro Terme: Italy)
PATENT NUMBER: US 4890440 PATENT DATE: 900102 PATENT CLASS#: 53/456
PATENT APP# - DATE OF APPLICATION
US 210716 - 880623
IT 873577 - 870729
SOURCE: U.S. pat. 4,890,440. Issued Jan. 2, 1990. 3 claims. 8 p. Cl.53/456. Filed: U.S. appln. 210,716 (June 23, 1988). Priority: Ital. appln. 3577/87 (July 29, 1987).
PUBLICATION YEAR: 1990
DOCUMENT TYPE: PATENT
LANGUAGES: ENGLISH
Flip-top boxes for pkg. foods, **powdered** detergents, **pharmaceutical** products, or the like are produced from blanks separated from large pbd. sheets supplied as a palletized stack.
DESCRIPTORS: BLANKS; BOXES; CONSTRUCTION; **CONTAINERS** ; CONV; ENGLISH; HINGED LID **CONTAINERS** ; PAPER BOARD **CONTAINERS** ; PATENTS; UNITED STATES

20/7,K/3 (Item 3 from file: 240)
DIALOG(R)File 240:PAPERCHEM
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.
00184169 PAPERCHEM NO: AB5310438
Possibility of Long-term Storage of Powdered Drugs **in Polymer** Containers
Pechers'kii, P. P.; Lutsko, P. P.; Bobrov, V. M
SOURCE: Farmatsev. Zh. (Kiev) no. 6: 81-82 (1978). [Ukr.]
PUBLICATION YEAR: 1978
DOCUMENT TYPE: JOURNAL ARTICLE
LANGUAGES: UKRAINIAN
A number of pharmaceutical preparations (pyramidon, acetyl salicylic acid, sodium bromide, phenobarbital, phenacetin, ascorbic acid, sodium bicarbonate, etc.) were packaged in paper-PE and cellophane-PE laminates and, as control, in waxed paper. The packages were stored for 1 yr at room temperature, and the suitability of the packaging materials was evaluated by the appearance of the drugs and their weight changes. Compared to drugs packaged in waxed paper, these changes were considerably smaller. In most cases, no changes were observed in the external appearance of the drugs. Ascorbic acid, which undergoes intense yellowing when packaged in waxed paper, showed only a slight change of color. Thus, the polymeric packaging materials can be regarded as suitable for long-term storage of limited amounts of **powdered pharmaceuticals** , including those sensitive to

atmospheric moisture. (6 ref., 1 tab.)
DESCRIPTORS: ADDITION POLYMERS; CELLOPHANE; COMPOSITES; **CONTAINERS** ; DRUGS; EVALUATION; LAMINATES; MEASUREMENT; OBSERVATION; PACKAGING; PACKAGING MATERIALS; PAPER; POLYETHYLENE; POLYHYDROCARBONS; POLYMERS; POLYOLEFINS; STORAGE; TEMPERATURE...

20/7,K/7 (Item 4 from file: 248)
DIALOG(R)File 248:PIRA

00150253 Pira Acc. Num.: 7130738 Pira Abstract Numbers: 03-86-03301
Title: PACKAGING WITH ALUMINIUM - NEW PRODUCTS
Authors: Anon
Source: Aluminium vol. 62, no. 6, June 1986, pp 416-417
Publication Year: 1986
Document Type: Journal Article
Language: German
Pira Subfiles: International Packaging Abstracts (PK)
Journal Announcement: 8610
Abstract: New products launched in various parts of the world by manufacturers of aluminium packaging materials include: a specially coated aluminium pie-dish which may be used in a microwave oven used by the US company Mrs Smith's Frozen Foods, the West German Aluminiumwerk Tscheulin's peel-open sachets for finger-wipes or **pharmaceutical powders** ; a new laminated tube from Printal Oy of Finland; a laminated aluminium-plastic foil for lining bottles and glass **containers** from Showa Aluminium of Japan; Schmalbach-Lubeca's security seal for cans of powdered foods eg coffee, milk, spices etc. and British Alcan Foil's new aluminium membrane used to seal Cadbury's Marvel tins.

Clinical Therapeutics
Volume 19, Issue 5 , September-October 1997, Pages 1126-1134

doi:10.1016/S0149-2918(97)80065-3 Cite or link using doi

Patient satisfaction with the Diskhaler® and the Diskus® inhaler, a new multidose powder delivery system for the treatment of asthma

Puneet Mahajan PhD and Lynn Okamoto PharmD

Glaxo Wellcome Inc., Research Triangle Park, North Carolina U.S.A.

Available online 10 October 2001.

Abstract

To evaluate patient satisfaction with two breath-actuated powder inhalers (Diskhaler® and Diskus®), investigators asked patients to complete questionnaires as part of a randomized, double-masked, double-dummy, placebo-controlled study of fluticasone propionate powder (500 mg twice daily) in the treatment of chronic persistent asthma. At baseline, patients rated the importance of various inhaler attributes (ie, ease of use, ease of loading with medication, ease of holding and operating, ease of cleaning, and ease of telling how many doses of medication are left). After 2 weeks of placebo and 6 and 12 weeks of active therapy, patients rated the inhalers on these same attributes. They also rated their general satisfaction with the inhalers and how comfortable they were using them. After 12 weeks, patients also rated the durability and convenience of carrying each device and were asked to indicate which they preferred. Data were available from 213 patients. All seven inhaler attributes measured were considered important by the majority of patients (71% to 91%), contributing to the validity of the patient-rated performance assessments. After 12 weeks of use, 57% to 88% of patients expressed a high level of satisfaction with the performance of the Diskhaler on all attributes; a high level of overall satisfaction (72%) and comfort (79%) was reported with this inhaler. Patients rated the performance of the Diskus inhaler very favorably, with 76% to 96% expressing a high level of satisfaction on all attributes; a high level of overall satisfaction (87%) and comfort (85%) was reported with this inhaler. At end point, 61.4% preferred the Diskus inhaler, 25.4% preferred the Diskhaler inhaler, and 13.2% expressed no preference. These breath-actuated powder inhalers may be acceptable alternatives to traditional metered-

dose inhalers for the treatment of patients with asthma.

Author Keywords: asthma; Diskus; Diskhaler; device satisfaction

Address correspondence to: Puneet Mahajan, PhD, Pharmacoeconomic Research, Glaxo Wellcome Inc., 5 Moore Drive, Research Triangle Park, NC 27709.

Clinical Therapeutics
Volume 19, Issue 5 , September-October 1997, Pages 1126-1134

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- PDF (683 K)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200409
File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	599869	POWDER??
S2	293182	MEDICAMENT? OR MEDICATION? OR MEDICINE
S3	88393	DRUG OR DRUGS
S4	128416	PHARMACEUTICAL? ?
S5	1606	(BLISTER OR BUBBLE)()(PACK? ? OR PACKET? ? OR PAK? ? OR SHEET? ?)
S6	926154	RECEPTACLE? ? OR CONTAINER? ? OR HOLDER? ?
S7	2152929	BOTTOM? ? OR UNDERSIDE? ? OR UNDER()SIDE? ? OR BASE OR BASES
S8	406506	CONVEX OR CONCAVE OR RAISED OR INDENTED OR ELEVATED
S9	189911	BOWED OR ARCUATE? ? OR ARCUAL OR ARCIFORM OR ARC OR ARCLIKE OR ARCHED OR BOWLIKE
S10	82428	INVERTED OR EVERTED
S11	182952	IC=(A61M OR A61L-009/04 OR A61K-000 OR A61K-009)
S12	4428	S1(5N)S2:S4
S13	33	S12 AND S5
S14	566	(S12 AND S6) NOT S5
S15	92020	S7(S)S8:S10
S16	0	S13 AND S15
S17	5	S14 AND S15
S18	**3**	**S11 AND S17**
S19	**2**	**S17 NOT S18**
S20	24	S13 AND S11
S21	**24**	**S20 NOT S17**
S22	**9**	**S13 NOT (S18 OR S19 OR S20)**
S23	254	S14 AND S11
S24	12	S8:S10 AND S23
S25	**9**	**S24 NOT S18:S22**

18/34/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013922941 **Image available**
WPI Acc No: 2001-407154/200143
Powder dispenser for inhalation of metered dose of powdered medicament , comprises powder holder , inhalation conduit, metering dose plate, and swirl nozzle
Patent Assignee: SCHERING CORP (SCHE)
Inventor: AMBROSIO T J; BENSON W A; DAO K C; KENYON D J; KREISEDER W J; SCHONEBAUM T J; VOGEL A J; WALKER L B; YANG T
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6240918	B1	20010605	US 9612029	A	19960221	200143	B
			US 97803363	A	19970220		

Priority Applications (No Type Date): US 9612029 P 19960221; US 97803363 A 19970220
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6240918	B1		54	A61M-015/00	Provisional application US 9612029

Abstract (Basic): US 6240918 B1
NOVELTY - A powder dispenser comprises a powder **holder** (60), an

inhalation conduit (64), a metering dose plate (180) and a swirl nozzle (380) with a supply chimney (404). The swirl nozzle changes the powder flow from a first direction of the inhalation conduit to a second direction. The supply chimney changes the powder flow from the second direction of the swirl cavity back to the first direction.

DETAILED DESCRIPTION - A powder dispenser comprises a powder **holder** , an inhalation conduit, a device for carrying a predetermined amount of the powdered material from the **holder** to the inhalation conduit, and a swirl nozzle having a supply chimney. The swirl nozzle changes the powder flow from the first direction of the inhalation conduit to a second direction. It is defined by a skirt and a top wall which has an opening. The supply chimney extends from the top wall, surrounding the opening, for changing the powder flow from the second direction of the swirl cavity back to the first direction. It includes an inner tubular wall surface having vertical irregularities extending in axial direction.

USE - The dispenser is useful for inhalation of a metered dose of a **powdered medicament** .

ADVANTAGE - The inventive powder dispenser delivers accurate dosage of **powder medicaments** within a particular size range. Its design activates the counter, makes it easy to reapply the cap, secures the powder retainer to the metering dose plate without leakage, and avoids disengagement of the swirl nozzle and mouthpiece from the drive body during inhalation. Further, its indicia can be read while the dispenser remains in its normal upright position.

DESCRIPTION OF DRAWING(S) - The figure is a longitudinal cross-sectional view of the inventive powder dispenser.

Powder housing (20)
Reservoir body (22)
Powder **holder** (60)
Powder supply (62)
Inhalation conduit (64)
Driving body (120)
Metering dose plate (180)
Metering dose hole (184)
Base (200)
Retaining post (218)
Adapter (320)
Swirl nozzle (380)
Supply chimney (404)
Gear teeth (424)
Closure cap (520)
Continuous counter ring (590)
Intermittent counter ring (620)
Pawl (640)
Spring (658)
pp; 54 DwgNo 4/90

Technology Focus:

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Components: The irregularities are formed by flutes on the inner tubular wall surface. The flutes are formed by first **concave** wall sections having an **arc** of a smaller radius, and second **concave** wall sections having an **arc** of a bigger radius. The top wall is circular with its opening at the center, and the swirl nozzle includes a curved wall which extends spirally from the opening to the skirt. The central axis of the inhalation conduit is parallel to and offset from that of

the supply chimney. The powder **holder** and the inhalation conduit are included in a powder housing (20). A reservoir body (22) which contains the powder supply (62) and includes the inhalation conduit, is also included in the powder housing. A driving body (120) is secured to the reservoir body to rotate the reservoir body, and includes recesses in its circular top wall (122). The swirl nozzle is mounted to the driving body and includes ribs welded in the recesses of the driving body. The metering dose plate is positioned below the powder supply, and is bio-directionally rotatable with the powder housing. It includes a metering dose hole (184) for holding the predetermined amount of powder. A spring (658) biases the metering dose plate and the powder housing towards each other. An adapter (320) is non-rotatably mounted to the metering dose plate, and includes locking recess or recesses for preventing the rotation of the powder housing. A closure cap (520) covers the powder housing and primes the powder dispenser for use. Further, the powder dispenser includes a gas permeable retainer for retaining a dose of the powder in the metered dose hole, a **base** (200) having a retaining post (218), and a counter which is rotatably mounted on the **base** for providing visual count of the number of doses of the powder that have been dispensed or remain to be dispensed. The counter includes a rotatable counter ring assembly which has a counting indicia for displaying the visual count. The counter ring assembly has a continuous counter ring (590) with gear teeth (424), and an intermittent counter ring (620). An actuating device incrementally rotates the counter ring assembly in response to the relative rotation between the metering plate and the powder housing. It includes an outer wall, a pawl (640) for engagement within the gear teeth of the continuous or intermittent counter ring, and a pawl spring for biasing the pawl into engagement with the gear teeth.

POLYMERS - Preferred Material: The ribs of the driving body are made from a plastic material

Derwent Class: B07; P34; P42; Q34
International Patent Class (Main): **A61M-015/00**
International Patent Class (Additional): **A61M-016/00** ; B05D-007/14; B65D-083/06

18/34/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
010774686 **Image available**
WPI Acc No: 1996-271639/199628
Multiple cylinder mechanism for filling intracorporeal direct injection container - has tubular spray nozzle with extended shaft and simple parallel circulation path internally
Patent Assignee: TAISEI KAKO CO (TAKJ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8112357	A	19960507	JP 94278458	A	19941017	199628	B

Priority Applications (No Type Date): JP 94278458 A 19941017
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8112357	A		10	A61M-031/00	

Abstract (Basic): JP 8112357 A

The mechanism consists of a tubular part (1n) standing up vertically on the base of crown member. The insertion hole (1h) for the

chemical or medical capsule (P) is provided at the bottom of the jet tubular part which has a parallel gas circulation path (1s). A support tube (2) is fixed on the base with a support (2f). A connection unit is provided in a side valve (6h) of the cylinder with a bottom (6) outside the downstream region (2d) of a support tube.

The valve operating mechanism (4) mounted to the **bottom** pore has a suction hole (40h) opening in the gas circulation path (43) for force feed. An **arc** like connected member (7) of L shaped cross- section slides outside of valley (2n). The outside connection part (7u) is connected to the connection part (1c) as a lower inner wall.

USE/ADVANTAGE - In opening capsules containing fine **powder** of chemical or **medicine** using gas force feed. Facilitates simultaneous administration of medicine or chemical. Supplies gas for force feed repeatedly. Facilitates use of intra-corporeal capsule as many times as required. Facilitates exchange of **container** .

Dwg.1/6

Derwent Class: P34
International Patent Class (Main): **A61M-031/00**
International Patent Class (Additional): **A61M-013/00**

19/34/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
012934218
WPI Acc No: 2000-106065/200009
Dispensing closure for container **of liquid or** powdered **paint, cosmetics,** pharmaceuticals , **chemicals including catalysts, etc.**
Patent Assignee: CLARKSON A J (CLAR-I)
Inventor: CLARKSON A J
Number of Countries: 086 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9965783	A1	19991223	WO 99AU454	A	19990611	200009	B
AU 9942517	A	20000105	AU 9942517	A	19990611	200024	
AU 765864	B	20031002	AU 9942517	A	19990611	200373	

Priority Applications (No Type Date): AU 984084 A 19980612
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9965783	A1	E	19	B65D-025/08	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9942517	A	B65D-025/08	Based on patent WO 9965783
AU 765864	B	B65D-025/08	Previous Publ. patent AU 9942517 Based on patent WO 9965783

Abstract (Basic): WO 9965783 A1

NOVELTY - The dispensing closure for a **container** has a side and bottom walls defining a compartment. The bottom wall is frangible, preferably having a weakened edge portion sealed to the **container** . A capsule engages within the compartment and contains a material to be dispensed. The capsule has a lower edge which, on relative movement of the capsule and compartment, breaks open the frangible bottom wall to dispense the capsule contents into the **container** .

DETAILED DESCRIPTION - The capsule may be an **inverted** cylinder open at its lower end. The capsule may be pushed past the **bottom** wall and prevented from returning.

USE - **Container** for liquid or **powdered** paint, cosmetic, **pharmaceutical** , chemical, etc.

ADVANTAGE - Material or substance in liquid, powder, solid, granular or other form is able to be quickly and easily dispensed into the product in the **container** . Closure is simple and easy to produce, assemble and sealingly engage with the **container** . Can be manufactured using existing manufacturing equipment and tooling.

pp; 19 DwgNo 0/6

Derwent Class: B07; Q32; Q33; Q34
International Patent Class (Main): B65D-025/08
International Patent Class (Additional): B65D-017/00; B65D-041/32; B65D-051/28; B65D-081/32

19/34/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
000876619
WPI Acc No: 1972-36602T/197223

Powdered medicament dispenser - for use with a parental soln container and having powder loss prevention means

Patent Assignee: AMERICAN HOME PROD CORP (AMHP)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 3662930	A					197223	B

Priority Applications (No Type Date): US 7051088 A 19700630
Abstract (Basic): US 3662930 A

The dispenser includes reservoir, contg. powder, a conduit connected to the reservoir for allowing passage of the powder into and from a parenteral soln. **container** over which the dispenser has been **inverted** , and a conical guide located, apex toward the **base** of the reservoir, between the conduit and the reservoir, the guide contg. tortuous through passages to prevent the escape of powder from the reservoir as it is initially **inverted** over the soln. **container** . Thus loss of powder is prevented and accurate proportion of medicament is maintained. The through passages are pref. in the form of concentric passageways interconnected by radial slots. The reservoir and conduit may both be of polyethylene, although the conduit may be part metal.

Derwent Class: B07; Q39
International Patent Class (Additional): B67D-003/00

21/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015546015
WPI Acc No: 2003-608171/200357

Medicament dispenser, useful for dispensing combination medicament product, comprises first and second medicament containers of respective first and second active components, and first and second release mechanisms

21/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

015449849
WPI Acc No: 2003-511991/200348
Lancing mechanism for piercing blister pack **in** medicament **inhaler for administration of dry** powder medicament **, comprises lancet having primary and secondary piercing elements configured for piercing top of** blister pack

21/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015217529
WPI Acc No: 2003-278442/200327
Inhalation device, useful for treating e.g. chronic obstructive pulmonary disease, delivers powdered mixture of salmeterol and anticholinergic agent

21/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015043103
WPI Acc No: 2003-103619/200309
Inhalation device for delivering powdered medicament **, comprising suction tube and unit for drying air drawn by user into device prior to contact with** powdered medicament **, so that dose is dispersed in dried air for delivery at proximal end**

21/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014677853
WPI Acc No: 2002-498910/200253
Medicament **inhalator for administering dry** powder medicament **to asthmatics, has inhalation-activated flow diverting device for triggering delivery of medicament**

21/26,TI/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014641169
WPI Acc No: 2002-461873/200249
Method for packaging uniform small measures of finely divided substance, involves evaporating portion of liquefied gas from dispensed metered quantity of dispersion comprising finely divided substance and liquefied gas

21/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014420469
WPI Acc No: 2002-241172/200229
Medicament **container comprises** medicament powder **formed from material comprising desiccant**

21/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014293845
WPI Acc No: 2002-114547/200215
Medicament **dispenser for administering** medicament **in** powder **form to**

patient comprises body, dose mover and dispensing outlet cover movable relative to body from storage position to in-use position

21/26,TI/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013924333
WPI Acc No: 2001-408546/200143
Inhalation device for administering powder medicament **from** blister pack **, comprises biasing means for moving suction tube into position where it is biased away from housing surfaces to facilitate grasping by user**

21/26,TI/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013781110
WPI Acc No: 2001-265321/200127
Dry powder medicament **inhalator for use in asthmatic patients, includes primary inhalation passage having an airflow inhibiting mechanism connected to a fluid flow blocking plate**

21/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013586646
WPI Acc No: 2001-070853/200108
Loading of a blister pack **with a defined quantity of** medicament **involves directing** powder **into a closed-off perforation of a perforated plate**

21/26,TI/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
012755771
WPI Acc No: 1999-561888/199947
Dry powder medicament **inhalator for asthmatic patients - has a primary inhalation passage with a rotatable restricting vane moving a blocking plate to entrain powder in a secondary airflow passage**

21/26,TI/20 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
011703580
WPI Acc No: 1998-120490/199811
Medical inhaler has improved indexing of rotatable disc carrying blister pack **- comprises** blister pack **mounted beneath cover plate and actuator aligned with one end of lever and other end adjacent to blister**

21/26,TI/21 (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
008915901
WPI Acc No: 1992-043170/199206
Inhalation medicament powder **dosing device - with element for bursting container lid esp. of** bubble pack

21/34/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

015911307 **Image available**
WPI Acc No: 2004-069147/200407
Inhalation therapy method involves forming unit dose of dry pharmaceutical powder **in pressurized airtight vessel, attaching the vessel to inhaler, rupturing the vessel where aerosol of powder is released into inhaler, and inhaling aerosol**
Patent Assignee: FOTLAND R A (FOTL-I); MIEKKA R G (MIEK-I)
Inventor: FOTLAND R A; MIEKKA R G
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20030196661	A1	20031023	US 2002125090	A	20020419	200407	B

Priority Applications (No Type Date): US 2002125090 A 20020419
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030196661	A1		9	A61M-015/00	

Abstract (Basic): US 20030196661 A1

NOVELTY - An inhalation therapy method comprises forming a unit dose of dry **pharmaceutical powder** in a pressurized airtight vessel; attaching the airtight vessel to an inhaler; rupturing the airtight vessel where an aerosol of the powder is released into the inhaler; and inhaling the aerosol.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a unit dose package for use in inhalation therapy, comprising a pressurized container containing one or more fine inhalable powders and a pressurized gas; and a method of pressurized packaging of uniform small measures of a finely divided substance, comprising providing the unit dose package; forming a mixture of the finely divided substance with a liquefied gas; agitating the mixture to form a uniform dispersion; dispensing a metered quantity of the uniform dispersion into the unit dose package; and sealing the unit dose package to form an airtight chamber, where the sealed substrate is maintained under high pressure.

USE - For inhalation therapy.

ADVANTAGE - The invention eliminates the requirement for an external aerosolizing power source. It provides a fine distribution of powder required of inhalation therapy.

DESCRIPTION OF DRAWING(S) - The figure schematically illustrates the use of a pressurized capsule in an inhaler.

Inhaler housing (41)
Mouthpiece (42)
Capsule holder (43)
Capsule (45)
Rupturable lid (47)
pp; 9 DwgNo 3/5

Technology Focus:

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Method: The airtight vessel is pressurized by sealing the vessel while the vessel contains a small quantity of liquefied gas, preferably liquefied nitrogen or liquefied fluorohydrocarbon. The aerosol is combined with inhaled air during the inhaling step.

Preferred Dose: The unit dose is 10 microgram-10 mg.

Preferred Component: The unit dose package is in the form of a cylindrical tube sealed at one end, or in the form of a **blister pack**

. Preferred Parameter: The high pressure is 20-300 psi.

PHARMACEUTICALS - Preferred Component: The finely divided substance is from **pharmaceutical powders** employed in inhalation therapy. The finely divided substance and **pharmaceutical powder** have a mean particle diameter of 0.5-5 microns, respectively. The unit dose comprising the **pharmaceutical powder** has a mean aerodynamic particle diameter of 0.5-5 microns.

INORGANIC CHEMISTRY - Preferred Component: The liquefied gas is liquefied noble gases or liquid nitrogen. The pressurized gas having a pressure in excess of 20 psi is nitrogen

Derwent Class: B07; P34
International Patent Class (Main): **A61M-015/00**

21/34/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015582660 **Image available**
WPI Acc No: 2003-644817/200361
Dry powder medicament **inhalator delivery system, useful for delivering several medicament formulations in single inspired breath, for treatment of respiratory diseases, comprises dry** powder **inhalator and** medicament **packaging system**
Patent Assignee: CASPER R A (CASP-I); GARDNER D L (GARD-I); JOHNSON K A (JOHN-I); RESPIRICS INC (RESP-N)
Inventor: CASPER R A; GARDNER D L; JOHNSON K A
Number of Countries: 101 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20030075172	A1	20030424	US 2001344544	P	20011019	200361	B
			US 2002267013	A	20021008		
WO 200335137	A2	20030501	WO 2002US32387	A	20021010	200361	

Priority Applications (No Type Date): US 2001344544 P 20011019; US 2002267013 A 20021008
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030075172	A1		22	A61L-009/04	Provisional application US 2001344544
WO 200335137	A2	E		A61M-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
Abstract (Basic): US 20030075172 A1

NOVELTY - A dry **powder medicament** inhalator delivery system for delivering several different medicament formulations in a single inspired breath, comprises:

(1) a dry **powder** inhalator for providing **medicament** to patients inspired air stream in a controlled manner; and

(2) a medicament packaging system (14) comprising at least one dose each of several different medicament formulations

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) A **blister pack** for delivering medicament for inhalation, containing a first and second medicament isolated in separate blisters;

(2) A method for delivering medication, comprising:

(a) selecting a medicament pack containing a first and second medicament isolated from each other; and

(b) opening the pack to enable inhalation of both medicaments in a single inhalation; and

(3) An inhaler for delivering medicament, comprising:

(a) a first inflow channel in contact with a first medicament;

(b) a second inflow channel in contact with a second medicament; and

(c) an inhalation channel in contact with both the first and second inflow channels.

USE - The inhaler is used for providing a combination of medicaments via inhalators, useful in the treatment of respiratory diseases, systemic and topical diseases, gene therapy, vaccine administration, or for administration of antigens and adjuvants.

ADVANTAGE - The medicaments are stored separately and are not mixed until the point of inhalation, eliminating the risk of deterioration of the medicaments or carriers. The manufacturing process is optimized for each **medicament powder** and thereby enhances chemical stability and physical stability of the **medicament powder** .

The individual medicaments can be delivered simultaneously or sequentially with one inhalation of the patient and thereby increases the patient compliance to achieve improved efficacy. The fine particles of the **medicament powder** maximizes the shelf life of each medicament and targeting to the lung.

DESCRIPTION OF DRAWING(S) - The figure shows a side view of a medicament package.

Medicament packaging system (14)

pp; 22 DwgNo 1A/12

Derwent Class: B07; P34; P35
International Patent Class (Main): **A61L-009/04 ; A61M-000/00**
International Patent Class (Additional): A62B-009/00

21/34/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015320751 **Image available**
WPI Acc No: 2003-381686/200336
Portable medication inhalation kit used for pulmonary administration of medicine, comprises carrying case, doses of dry powder medication , **dosing guidance system, and dry** powder **inhaler**
Patent Assignee: LILLY & CO ELI (ELIL)
Inventor: NESBITT R R
Number of Countries: 101 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200330974	A1	20030417	WO 2002US29829	A	20021002	200336	B

Priority Applications (No Type Date): US 2001327761 P 20011008
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200330974	A1	E	26	A61M-015/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB

GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
Abstract (Basic): WO 200330974 A1

NOVELTY - A portable medication inhalation kit (20) has:

(a) carrying case (22) with first, second, and third surface portions;

(b) individual doses (57) of dry **powder medication** removably mounted on first surface;

(c) dosing guidance system on second surface in registry with individual doses; and

(d) dry powder inhaler (40) removably mounted on third surface and operable to administer doses loaded by user into inhaler

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a carrier for individual doses of inhalable medication and an inhaler operable to pulmonarily administer 1 of the individual doses, comprising first and second parts both having exterior and interior surfaces, with the second being hingedly connected to the first and pivotable relative between a carrier opening and closing positions; mechanisms on the first part interior surface for removably mounting the individual doses of medication and for guiding the dosing; and mechanism on 1 of the first and second part interior surfaces for removably mounting the inhaler. When in carrier closing position the first and second parts define an internal volume in which the interior surface of the first part faces the interior surface of the second part.

USE - The invention is used to administer medicine, particularly to pulmonary administration of medicine.

ADVANTAGE - The invention allows a patient to conveniently, and in organized fashion, tote around the materials needed to pulmonarily self-administer the inhalable medication. It has an uncomplicated and cost-effective design which is easy and intuitive to use. It also allows the user to note personalized instructions for a given dose of medication. It can also be stored in a highly visible arrangement to serve as dosing reminder and which may assist the user in complying with the therapy prescribed by a physician.

DESCRIPTION OF DRAWING(S) - The figure is a diagrammatic, exploded perspective view of the portable medication inhalation kit.

Portable kit (20)
Carrying case (22)
Lid (24)
Base (26)
Hinges (28)
Inserts (30, 32)
Insert surface (31)
Central surface region (34)
Inhaler accommodating hollow (35)
Recessed regions (37, 38)
Inhaler (40)
First rail (44)
Lip portions (45, 47)
Slot (50)
Protruding stop (52)
Medicine pack (55)
Individual doses (57)
Cavities (60)
Dosing guidance system (70)
pp; 26 DwgNo 1/6

Technology Focus:

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Components: The individual doses comprise medication filled capsules. The first surface portion comprises a pair of rails with facing lips to retain the **blister pack** . The dosing guidance system 70) comprises dry erase markable surface(s) fixedly secured to or integrated into the case second surface, replaceable writing tablet(s) removably mounted on the case second surface, and indicia provided directly on the case second portion. The kit further comprises an insert (30, 32) removably mountable on the case first and second surfaces and includes dosing guidance system and adhesive element(s) on which the individual doses is removably mountable. The insert comprises a cardboard construction and a release strip covering the adhesive element(s). The carrying case comprises first and second parts hingedly connected in a clamshell configuration. The mechanism for mounting the medication comprises lipped projections that retain a pack containing a row of medication. The lipped projections comprise a pair of parallel rails between which the pack is insertable.

Preferred Devices: The individual doses of dry **powder medication** are arranged in a row and individually sealed within a **blister pack** . The first surface portion defines a slot (50) for slidably receiving the **blister pack** . The case first surface portion is adapted to retain the **blister pack** when it is received in the slot. The doses are aligned with the dosing guidance system. The case first and second surfaces define a slot for slidably receiving the insert and are adapted to retain the insert after being received in the slot. The third surface defines a recess in which partially insertably fits the inhaler.

Derwent Class: B07; P33; P34
International Patent Class (Main): **A61M-015/00**
International Patent Class (Additional): A61J-001/00

21/34/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014256462 **Image available**
WPI Acc No: 2002-077160/200211
Blister pack **useful in packaging and delivering vitamins, for inhalation therapy, comprises elongate bottom element and frangible top element defining crowned areas containing powder or liquid material**
Patent Assignee: MICRODOSE TECHNOLOGIES INC (MICR-N)
Inventor: GUMASTE A V
Number of Countries: 027 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1166812	A1	20020102	EP 2001401722	A	20010628	200211 B
US 20020078947	A1	20020627	US 2000214578	P	20000628	200245
			US 2001888837	A	20010625	

Priority Applications (No Type Date): US 2000214578 P 20000628; US 2001888837 A 20010625
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1166812	A1	E	11	A61M-015/00	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

US 20020078947	A1	A61M-011/00	Provisional application US 2000214578

Abstract (Basic): EP 1166812 A1

NOVELTY - A **blister pack** for use in inhalation therapy, comprises an elongate bottom element (10) and a frangible overlying top element (12). The top elements have several spaced top crowned areas (14) containing powder or liquid material.

USE - Useful in packaging and delivering wet or dry pharmaceutical and drugs such as vitamins, hormones, steroids and other bio-active materials, such as peptides and proteins, for use in inhalation therapy.

ADVANTAGE - The **blister pack** (BP) effectively enables pre-packaging of aliquots or doses of medications or drugs. The shape and size of the blisters provides optimum control over delivery of controlled amounts of medication or drug. The holes in BP may act as filters and prevents ejection of aggregated or agglomerated particles from the **blister pack** , until the particles are broken up to optimal size, thereby eliminating overdosing and/or wastage of medicament. The shape, height and volume of BP together with the size and number of holes punched through the top crowned area, enables de-aggregation and aerosolization of the powder or liquid material in BP. The three main phenomenons which helps in de-aggregation and aerosolization of the material in the blister are Helm-Holtz resonator, standing waves set-up in BP and vibrator frequency of the piezo. The Helm-Holtz resonator formed by the holes punches in the top crown and the volume of BP, supports de-aggregation and ejection of material from BP. The standing waves in BP having determined by the height and shape of the blister, enables lifting and aerosolizing the material in the blister. The BP when coupled to the piezo essentially acts as a miniature pump which expels the powder or liquid into the air stream, and keeps the **powdered** or liquid **medications** or **drugs** freshly sealed and dry until just prior to use. Dosage size can be adjusted simply by changing the number of BP opened in the air channel. Hence, multiple blister may be opened simultaneously or sequentially.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram of a **blister pack** .

Bottom element (10)
Top element (12)
Top crowned areas (14)
pp; 11 DwgNo 3/6

Derwent Class: B07; P34; Q31; Q34
International Patent Class (Main): **A61M-011/00** ; **A61M-015/00**
International Patent Class (Additional): **A61M-016/00** ; B29C-051/00; B65B-011/00; B65D-073/00; B65D-075/00; B65D-083/00

21/34/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013933757 **Image available**
WPI Acc No: 2001-417971/200144
Blister pack **for inhaling powdered machine, has at least one slit formed by cutting foil layer and lower base for accurate penetration of suction tube for inhaling machine**
Patent Assignee: ASTRAZENECA AB (ASTR); EKELIUS C (EKEL-I); OHLSSON P (OHLS-I); SELMER A (SELM-I)
Inventor: EKELIUS C; OHLSSON P; SELMER A
Number of Countries: 096 Number of Patents: 014
Patent Family:
Patent No Kind Date Applicat No Kind Date Week

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WO 200145634    A1  20010628  WO 2000SE2649    A   20001221  200144  B
AU 200125684    A   20010703  AU 200125684     A   20001221  200164
US 20020124846  A1  20020912  WO 2000SE2649    A   20001221  200262
                              US 2001830237    A   20010424
NO 200202922    A   20020819  WO 2000SE2649    A   20001221  200266
                              NO 20022922      A   20020618
EP 1242034      A1  20020925  EP 2000989141    A   20001221  200271
                              WO 2000SE2649    A   20001221
BR 200016538    A   20020924  BR 200016538     A   20001221  200272
                              WO 2000SE2649    A   20001221
CZ 200202152    A3  20021016  WO 2000SE2649    A   20001221  200279
                              CZ 20022152      A   20001221
TW 470657       A   20020101  TW 2000127696    A   20001222  200281
KR 2002065590   A   20020813  KR 2002707929    A   20020620  200309
JP 2003517884   W   20030603  WO 2000SE2649    A   20001221  200346
                              JP 2001546376    A   20001221
CN 1434695      A   20030806  CN 2000818998    A   20001221  200366
US 6637431      B2  20031028  WO 2000SE2649    A   20001221  200372
                              US 2001830237    A   20010424
MX 2002006152   A1  20021201  WO 2000SE2649    A   20001221  200377
                              MX 20026152      A   20020620
ZA 200204206    A   20031126  ZA 20024206      A   20020527  200402
Priority Applications (No Type Date): SE 994706 A 19991221
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
WO 200145634  A1 E  41 A61J-001/03
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
   KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
   RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
   Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
   IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200125684  A        A61J-001/03   Based on patent WO 200145634
US 20020124846 A1       A61M-015/00
NO 200202922  A        A61J-000/00
EP 1242034    A1 E     A61J-001/03   Based on patent WO 200145634
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
   LI LT LU LV MC MK NL PT RO SE SI TR
BR 200016538  A        A61J-001/03   Based on patent WO 200145634
CZ 200202152  A3       A61M-015/00   Based on patent WO 200145634
TW 470657     A        A61M-015/00
KR 2002065590 A        A61J-001/00
JP 2003517884 W     48 A61J-001/03   Based on patent WO 200145634
CN 1434695    A        A61J-001/03
US 6637431    B2       A61M-015/00   Based on patent WO 200145634
MX 2002006152 A1       A61J-001/03   Based on patent WO 200145634
ZA 200204206  A     47 A61J-000/00
Abstract (Basic): WO 200145634 A1
        NOVELTY - A blister pack comprising a lower base (18)
    containing cavities for holding powdered machine for inhaling, is new.
    An upper sealing foil layer (20) covers the lower base to form blisters
    (13). Each cavity has at least one adjacent slit (21) formed by cutting
    the foil layer and the lower base ensuring accurate penetration of
    cavity by inhaling suction tube from which an user inhales the machine.
        USE - For holding powder medicament for inhalation.
        ADVANTAGE - The pack is light weight while retaining sufficient
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rigidity due to constructional feature of **blister pack** . Eliminates chances of misuse since slits are formed for penetrating suction tube.

DESCRIPTION OF DRAWING(S) - The drawing shows an enlarged perspective view of a **blister pack** .

Blister (13)
Lower base (18)
Upper sealing foil layer (20)
Adjacent slit (21).
pp; 41 DwgNo 40/42

Derwent Class: B07; P33; P34; P35; Q31; Q32
International Patent Class (Main): A61J-000/00; A61J-001/00; A61J-001/03; **A61M-015/00**
International Patent Class (Additional): **A61M-015/02** ; A62B-007/00; B65B-069/00; B65D-025/10

21/34/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013507723 **Image available**
WPI Acc No: 2000-679667/200066

Carrier for containment of a product such as a medicament for use in conjunction with an inhaler.

Patent Assignee: GLAXO GROUP LTD (GLAX)
Inventor: BONNEY S G; DAVIES M B; GODFREY J W; HAGLUND S M; RAND P K
Number of Countries: 093 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200064779	A1	20001102	WO 2000EP3518	A	20000419	200066	B
AU 200041195	A	20001110	AU 200041195	A	20000419	200109	
EP 1173368	A1	20020123	EP 2000920722	A	20000419	200214	
			WO 2000EP3518	A	20000419		
JP 2002542999	W	20021217	JP 2000613742	A	20000419	200312	
			WO 2000EP3518	A	20000419		

Priority Applications (No Type Date): GB 999357 A 19990424
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200064779	A1	E	39	B65D-075/20	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200041195	A		B65D-075/20	Based on patent WO 200064779
EP 1173368	A1	E	B65D-075/20	Based on patent WO 200064779

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 2002542999	W	64	B65D-085/50	Based on patent WO 200064779

Abstract (Basic): WO 200064779 A1

NOVELTY - A medicament carrier comprising a **sheet** having two portions, one having a retainer to contain the product, the second having a fold so that the portion is foldable towards the retainer to form a cover, and a join between the cover and the retainer, is new.

USE - For uses in combination with an inhalation device, a contraceptive device, or as a **blister pack** for other products, e.g. medicaments, foodstuffs, tools, and agrochemicals (claimed).

ADVANTAGE - Especially useful for the elderly or infirm in that the pull tab is readily identifiable and easy to grasp.

DESCRIPTION OF DRAWING(S) - The drawing is a sectional view of a first embodiment.

Elongate strip (10)
Blister (20)
Seal (25)
Pull tab (30)
pp; 39 DwgNo 1a/6

Technology Focus:

TECHNOLOGY FOCUS - MECHANICAL ENGINEERING - Preferred Carrier: The carrier comprises an elongate strip (10) having a first portion provided with a blister (20) to contain a **powdered medicament** , and a second portion folded once to cover the blister (20) and its seal (25) and folded again to provide a pull release tab (30). The device may be produced in single or multi-dose form, the strip (10) being made from material selected from the group including metal foil, an organic polymeric material, or paper, most preferably comprising a laminate. An inert support within the retainer holds the product. The second portion may have a second fold to form a pull release tab which has a looped end. The join is formed using heat, laser, radio frequency, adhesive, staple, stamp, pressure or ultrasound sealing.

PHARMACEUTICALS - Preferred Carrier: The carrier can contain medicaments including albuterol, salmeterol, ipratropium bromide, fluticasone propionate, beclamethasone dipropionate, and salts or solvates thereof and mixtures thereof. Contraceptive drugs include spermicide, estrogen, ethinyl estradiol, progesterone, levonorgestrel, and norgestrel

Derwent Class: B05; B07; C07; D16; P33; P34; Q34
International Patent Class (Main): B65D-075/20; B65D-085/50
International Patent Class (Additional): A61J-001/03; A61J-001/05; **A61K-009/70** ; **A61M-015/00** ; B65D-075/22; B65D-075/42; B65D-085/00; B65D-085/16; B65D-085/24; B65D-085/72; B65D-085/82

21/34/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012755704 **Image available**
WPI Acc No: 1999-561821/199947
Powder inhaler and blister pack **unit for administering medicaments in dose form e.g. in asthma treatment - has an attached suction tube and back-to-back** blister pack **elements allowing a space saving arrangement of powder containing blisters**
Patent Assignee: ASTRAZENECA AB (ASTR); ASTRA AB (ASTR)
Inventor: HECKENMUELLER H; HETZER U; KUBLIK H; TIEDEMANN V; VON SCHUCKMANN A; HECKENMUELLER H A G; HETZER U A G; KUBLIK H A G; TIEDEMANN V A G; HECKENMULLER H
Number of Countries: 087 Number of Patents: 017
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9947099	A1	19990923	WO 99SE416	A	19990316	199947	B
AU 9930623	A	19991011	AU 9930623	A	19990316	200008	
NO 200004587	A	20000914	WO 99SE416	A	19990316	200063	
			NO 20004587	A	20000914		
BR 9908815	A	20001121	BR 998815	A	19990316	200065	
			WO 99SE416	A	19990316		

EP 1063957	A1	20010103	EP 99912201	A	19990316	200102
			WO 99SE416	A	19990316	
CZ 200003369	A3	20001213	WO 99SE416	A	19990316	200103
			CZ 20003369	A	19990316	
SK 200001380	A3	20010212	WO 99SE416	A	19990316	200112
			SK 20001380	A	19990316	
HU 200101444	A2	20010928	WO 99SE416	A	19990316	200168
			HU 20011444	A	19990316	
MX 2000009045	A1	20010301	MX 20009045	A	20000914	200170
KR 2001052210	A	20010625	KR 2000710228	A	20000916	200173
CN 1316894	A	20011010	CN 99805892	A	19990316	200207
JP 2002506686	W	20020305	WO 99SE416	A	19990316	200220
			JP 2000536340	A	19990316	
AU 744255	B	20020221	AU 9930623	A	19990316	200223
NZ 506811	A	20020830	NZ 506811	A	19990316	200265
			WO 99SE416	A	19990316	
ZA 200004768	A	20020925	ZA 20004768	A	20000908	200275
EP 1063957	B1	20030723	EP 99912201	A	19990316	200356
			WO 99SE416	A	19990316	
DE 69909764	E	20030828	DE 609764	A	19990316	200364
			EP 99912201	A	19990316	
			WO 99SE416	A	19990316	

Priority Applications (No Type Date): SE 98897 A 19980317
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9947099	A1	E	38	A61J-001/03	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9930623	A		A61J-001/03	Based on patent WO 9947099	
NO 200004587	A		A61J-000/00		
BR 9908815	A		A61J-001/03	Based on patent WO 9947099	
EP 1063957	A1	E	A61J-001/03	Based on patent WO 9947099	

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU MC MK NL PT RO SE SI

CZ 200003369	A3		A61J-001/03	Based on patent WO 9947099	
SK 200001380	A3		A61M-015/00		
HU 200101444	A2		A61J-001/03	Based on patent WO 9947099	
MX 2000009045	A1		A61J-001/03		
KR 2001052210	A		B65D-075/36		
CN 1316894	A		A61J-001/03		
JP 2002506686	W	45	A61M-013/00	Based on patent WO 9947099	
AU 744255	B		A61J-001/03	Previous Publ. patent AU 9930623	
				Based on patent WO 9947099	
NZ 506811	A		A61J-001/03	Based on patent WO 9947099	
ZA 200004768	A	54	A61J-000/00		
EP 1063957	B1	E	A61J-001/03	Based on patent WO 9947099	

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU MC MK NL PT RO SE SI

DE 69909764	E		A61J-001/03	Based on patent EP 1063957	
				Based on patent WO 9947099	

Abstract (Basic): WO 9947099 A1
NOVELTY - The inhaler comprises a frame (13) holding **blister**

packs (11, 12) back-to-back, a cutting assembly (64) and interconnection (9)

DETAILED DESCRIPTION - The inhaler comprises a plastic housing for a **blister pack** assembly comprising a **blister pack** unit and a suction tube (7) with a cutting assembly (64) and interconnection (9). A frame (13) holds **blister pack** elements (11, 12) with multiple blisters (21, 22) covered by thin metal films (26, 27) and cavities (19, 20) containing a powder dose. Preferably, two elements are arranged back-to-back, with the first element cavities in the spaces between the second element cavities.

USE - For administering dry **powder medicaments** in the form of individual **powder** doses contained in blisters, in the treatment of respiratory conditions, e.g. asthma.

ADVANTAGE - The back-to-back arrangement of **blister pack** elements minimizes the inhaler thickness and dimensions. The housing has an array of openings for guiding the suction tube over individual blisters for the cutting assembly to rupture the film covering. The interconnection prevents the suction tube from becoming separated from the **blister pack** unit. A frame clip holds the suction tube when not in use. A hinged cover for the housing encloses the suction tube and guide openings when closed.

DESCRIPTION OF DRAWING(S) - The drawing shows an exploded perspective view of the inhaler **blister pack** assembly.

Suction tube (7)
Interconnection (9)
Blister pack elements (11,12)
Frame (13)
Cavities (19,20)
Blisters (26,27)
Thin metal films (21,22)
Cutting assembly (64)
pp; 38 DwgNo 6/14

Derwent Class: B07; P33; P34; Q32; Q34
International Patent Class (Main): A61J-000/00; A61J-001/03; **A61M-013/00** ; **A61M-015/00** ; B65D-075/36
International Patent Class (Additional): B65D-083/04

21/34/22 (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008898758 **Image available**
WPI Acc No: 1992-026027/199204

Inhaler delivering fine powder from buster strip - has cup in airflow path to hold powder without loss before inhalation

Patent Assignee: PROMO PACK SA (PROM-N)
Inventor: CITTERIO G; COCOZZA S; RUSCONI M
Number of Countries: 015 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 467172	A	19920122	EP 91111238	A	19910705	199204	B
US 5207217	A	19930504	US 91722873	A	19910628	199319	
EP 467172	B1	19940406	EP 91111238	A	19910705	199414	
DE 69101600	E	19940511	DE 601600	A	19910705	199420	
			EP 91111238	A	19910705		
IT 1243344	B	19940610	IT 9020947	A	19900716	199441	

Priority Applications (No Type Date): IT 9020947 A 19900716

Cited Patents: EP 129985; FR 2516387
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 467172	A				
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
US 5207217	A		7	A61M-015/00	
EP 467172	B1	E	10	A61M-015/00	
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69101600	E			A61M-015/00	Based on patent EP 467172
IT 1243344	B			A61M-000/00	

Abstract (Basic): EP 467172 A

An inhaler for administering very fine or micronised **medicament powder** doses contained in blisters (30) in a sheet has a piercer (62) acting on the blisters as they are sequentially positioned, a delivery channel (82) and an air intake (28). The sheet is formed as a strip with aligned blisters and in piercing position a blister is interposed between the delivery channel and a coaxial channel (22) connecting it to the air intake.

A coaxial cup (46) is located in the connection channel proximate the end adjacent to the blister, with the cup concavity facing the blister and the cup having smaller dimensions than the connection channel adjacent to the cup. The cup pref. has a capacity substantially greater than the vol. of a dose. The blisters are pref. positioned by a rotatable hollow drum.

ADVANTAGE - Uses a **blister sheet** of min. overall size and is simple and comfortable to use. (9pp Dwg.No.1/3)

Abstract (Equivalent): EP 467172 B

An inhaler (10) of the multiple single-dose type for administering doses of **medicament** in very fine or micronised **powder** form, said doses being contained in blisters (30) in a **blister sheet** (60), the inhaler comprising means (18) for bringing the blisters (30) of a **blister sheet** (60) one after another into a piercing position, means (62) for piercing the individual blister (30) when in the piercing position, a delivery channel (82) through which the patient exerts the inhalation action, and an air intake (28) which communicates with said delivery channel when a blister has been pierced, the released dose of medicament being removable by the air stream generated by the inhalation, characterised in that the **blister sheet** (60) is in the form of a strip with the blisters (30) aligned, there being provided a channel (22) of rectilinear axis coaxial with the delivery channel (82) and connecting this latter to the air intake (28), the individual blister (30) when in its piercing position being interposed between the delivery channel (82) and the connection channel (22), within the connection channel (22) in proximity to that end (40) thereof adjacent to the blister when in its piercing position there being provided a **cup** (22) having smaller dimensions than the dimensions of the connection channel (22) at the position occupied by the **cup**.

(Dwg.1/3

Abstract (Equivalent): US 5207217 A

An inhaler for delivering **powdered medicament** doses contained in individual blisters (30) in a sheet (60) brings the blisters successively into position for piercing (62) and in which the powder can be entrained by an inhalation air stream. The sheet is formed as a strip with the blisters aligned, and in the piercing position a blister is located between a delivery channel (82) and a second channel (22) connecting the delivery channel to an air intake. A cup (46) coaxial

with the second channel has its interior facing the blister, and has smaller dimensions than the second channel at the position occupied by the cup.

The capacity of the cup is pref. substantially greater than that of a single dose. The blister feed mechanism is pref. a rotatable hollow drum.

ADVANTAGE - Is simple and comfortable to use and utilises a **blister sheet** of min. size.

Dwg.1/3

Derwent Class: B07; P34
International Patent Class (Main): **A61M-015/00**

21/34/23 (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003955827
WPI Acc No: 1984-101371/198417
Hand-held inhaler for powder or liq. medical inhalants - which are in dose sized blisters of circular disc blister pack
Patent Assignee: GLAXO GROUP LTD (GLAX)
Inventor: FITZSIMMONS R A; NEWELL R E; NEWELL R
Number of Countries: 021 Number of Patents: 044
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
BE 897946	A	19840409	BE 897946	A	19831007	198417	B
DE 3336486	A	19840426	DE 3336486	A	19831007	198418	
GB 2129691	A	19840523	GB 8326878	A	19831007	198421	
AU 8319977	A	19840412				198422	
NL 8303461	A	19840501	NL 833461	A	19831007	198422	
SE 8305542	A	19840514				198422	
NO 8303667	A	19840430				198424	
BR 8305562	A	19840515				198427	
DK 8304643	A	19840521				198427	
FI 8303641	A	19840531				198428	
PT 77471	A	19841220				198507	
FR 2550452	A	19850215	FR 8316025	A	19831007	198513	
ZA 8307318	A	19850311	ZA 837318	A	19830929	198531	
LU 85034	A	19850619				198541	
FR 2570607	A	19860328	FR 854382	A	19850325	198619	
GB 2169265	A	19860709	GB 862264	A	19821209	198628	
US 4627432	A	19861209	US 83540203	A	19831007	198652	
GB 2129691	B	19870805				198731	
GB 2169265	B	19870812				198732	
CA 1224992	A	19870804				198735	
CH 662277	A	19870930				198742	
IL 80468	A	19871130				198803	
IL 69932	A	19871231				198809	
AU 8783155	A	19880421				198824	
CA 1236736	A	19880517				198824	
US 4778054	A	19881018	US 86936148	A	19861201	198844	
SE 8803702	A	19881017				198914	
SE 458824	B	19890516				198922	
FI 8901175	A	19890313				198940	
DE 3348370	A	19900628	DE 3348370	A	19831007	199027	
DE 3336486	C	19901004				199040	
IT 1203660	B	19890215				199125	

SE 465752	B	19911028				199146
AT 8303576	A	19921215	AT 833576	A	19831007	199303
AT 396333	B	19930615	AT 833576	A	19831007	199327
NL 192564	B	19970602	NL 833461	A	19831007	199727
NL 9700002	A	19970602	NL 833461	A	19831007	199727
			NL 972	A	19970321	
DK 9800451	A	19980331	DK 98451	A	19980331	199843
DK 172541	B	19981207	DK 834643	A	19831007	199904
DK 173079	B	19991220	DK 98451	A	19980331	200006
NL 193681	B	20000301	NL 833461	A	19831007	200017
			NL 972	A	19970321	
DE 3348370	C2	20011011	DE 3336486	A	19831007	200159
			DE 3348370	A	19831007	
PH 1198329670	B1	20011207	PH 29670	A	19831007	200362
PH 1199901091	B1	20011207	PH 1091	A	19990511	200382

Priority Applications (No Type Date): GB 8314307 A 19830524; GB 8228887 A 19821008; GB 862264 A 19821209

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
BE 897946	A		18		
AT 8303576	A			A61M-015/00	
AT 396333	B			A61M-015/00	Previous Publ. patent AT 8303576
NL 192564	B		7	A61M-015/06	
NL 9700002	A		12	A61M-015/06	Div ex application NL 833461
DK 9800451	A			A61M-015/00	
DK 172541	B			A61M-015/00	Previous Publ. patent DK 8304643
DK 173079	B			A61M-015/00	Previous Publ. patent DK 9800451
NL 193681	B			A61J-001/03	Div ex application NL 833461
DE 3348370	C2			A61J-001/00	Div ex application DE 3336486 Div ex patent DE 3336486
PH 1198329670	B1			A61M-015/00	
PH 1199901091	B1			B65D-083/04	

Abstract (Basic): GB 2169265 A

A pack comprising a circular carrier disc which has a plurality of pre-filled, hermetically sealed containers formed integrally therewith and arranged in a circle, each container containing directly, as herein defined, a dose of **medicament** in the form of a **powder** ; the **medicament** being suitable for inhalation, each container being puncturable to form a hole on each side thereof to allow in use, air to flow through the container to entrain the powder contained therein.

GB 2129691 A

A device for administering medicaments to patients which comprises a housing with a cylindrical chamber therein; an air inlet into the chamber; a support inside the chamber arranged to support, in use, a carrier provided with a container for medicament or a plurality of containers arranged in a circle; a plunger operable, in use, to engage a container registered therewith to open the container in such a way that air being inhaled by a patient will cause the medicament to be released therefrom while the container remains stationary; means for rotatably indexing, in use, the carrier to register the container, or each of them in turn, with the plunger; and, communicating with th einterior of the chamber, an outlet through which a patient can inhale whereby, in use, medicament will be released from a container and entrained in the airflow produced by the patient so as to pass through the outlet.

DE 3336486 A

An appliance to dispense orally medicine such as Salbutamol and Beclomethaseon-diproportionate in the shape of particles to an asthmatic patient is a shallow cylindrical plastic casing in which a circular **blister pack**0 of medicine is fitted. A mouthpiece on it is preceded by a perforated plate. A central knurled button is used to turn the **blister pack** . A hole in the cover permits the insertion of a spring-loaded pin with a sharp leading point which can be pressed down to destroy a blister and spill the contents in a separate compartment just ahead of the perforated plate leading to the mouthpiece.

ADVANTAGE - This does not require the medicine to be packed in separate capsules.

(8pp)

BE 897946 A

Patient can inhale a powder or liq. via mouth or nostril for the treatment of bronchial complaints etc.. The inhaler comprises a shallow, cylindrical box inside which a circular disc **blister - pack** of plastic ampoules contg. inhalant is supported to be rotatably coaxially with the box. The ampoules are evenly spaced around a circle centred on the axis of disc rotation.

The **blister - pack** is rotated by a plate which sits on top of the pack, engaging each ampoule in a hole in the plate. The plate has an axial button projecting through the lid of the box for turning the plate and **blister - pack** . The plate has register catches on a pitch circle to locate the plate with each ampoule in turn beneath a spring-loaded plunger which can be depressed to break open the ampoule. Once the inhalant is released, the patient sucks or inhales by nostril from a box outlet pipe.

The ampoules are much more stable and have greater shelf life than gelatin capsules, previously used to contain inhalants. The **blister - packs** are inexpensive to make and easy to store. Several packs can be carried in a false bottom of the inhaler.

1/5

Abstract (Equivalent): GB 2169265 B

A pack comprising a circular carrier disc which has a plurality of pre-filled, hermetically sealed containers formed integrally therewith and arranged in a circle, each container containing directly, as herein defined, a dose of **medicament** in the form of a **powder** ; the **medicament** being suitable for inhalation, each container being puncturable to form a hole on each side thereof to allow in use, air to flow through the container to entrain the powder contained therein.

Abstract (Equivalent): US 4778054 A

Container for storing pharmaceuticals comprises a short cylindrical box in which a number of pre-filled, hermetically sealed, conical vessels are mounted, each vessel contg. an inhalable pharmaceutical compsn. (unit dose). The cover of the box is provided with holes, such that on rotation or depression of the cover, a vessel contg. the pharmaceutical compsns. becomes accessible.

USE - The prods. are convenient means of storing pharmaceutical compsns.

(11pp)

US 4627432 A

Device for administering medicaments in containers arranged around a circular carrier comprises a housing in which a circular disc having apertures aligned with the containers is located.

A plunger connected to the housing puctures a container which

aligned to release the contents which are entrained in the airflow for inhalation.
ADVANTAGE - Capsules are not needed.
(7pp)
Derwent Class: B07; P33; P34; Q34
International Patent Class (Main): A61J-001/00; A61J-001/03; **A61M-015/00** ; **A61M-015/06** ; B65D-083/04
International Patent Class (Additional): A61J-007/00; **A61K-009/00** ; A61K-031/57; **A61M-011/00** ; **A61M-013/00** ; B65D-075/36; B65D-085/56

22/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015404145
WPI Acc No: 2003-466285/200344
Internal punch for opening chamber in blister - pack **container comprises free floating flexible ejector punch**

22/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014918907
WPI Acc No: 2002-739614/200280
Medication dispenser for use with medication carrier/inhaler, uses annular cutter that extends downwardly from interior surface of flexible dome towards frangible lower membrane

22/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014277331
WPI Acc No: 2002-098033/200213
Transferring defined quantity of powder into a blister pack **for use in inhalation device, comprises dipping tube into compacted target area of powder to fill the tube with defined volume of powder, and transferring powder**

22/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014074644
WPI Acc No: 2001-558857/200163
Scales for weighing blister packs **containing powder in the microgram range**

22/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013547797
WPI Acc No: 2001-032003/200104
Apparatus for use to distribute powdered medicament **comprises a movable blade that presents a forward acute angle to a linear path on a powder bed**

22/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

011236733
WPI Acc No: 1997-214636/199720
Appts. for metering pharmaceuticals into containers moved along conveyor - has dispenser with nozzles for receiving pharmaceutical from hopper and delivering into containers

22/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
008954714
WPI Acc No: 1992-081983/199211
Filling blind cavities with powder - by immersing cavity, open side down, into powder reservoir and withdrawing with powder filling

22/26,TI/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
008353638
WPI Acc No: 1990-240639/199032
Slowly rotating distributor plate delivers metered solids - into containers or blister cells on fixed support

22/34/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
015340432 **Image available**
WPI Acc No: 2003-401370/200338
Method of packaging e.g. pharmaceutical powder **for inhalation therapy, comprises providing channel for transporting powder aerosol, moving linear array of packages adjacent the channel, and precipitating the substance in packages**
Patent Assignee: FOTLAND R A (FOTL-I)
Inventor: FOTLAND R A
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020179176	A1	20021205	US 2001294474	P	20010530	200338 B
			US 2002157074	A	20020529	
US 6588457	B2	20030708	US 2001294474	P	20010530	200353
			US 2002157074	A	20020529	

Priority Applications (No Type Date): US 2001294474 P 20010530; US 2002157074 A 20020529
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020179176	A1		9	B65B-001/04	Provisional application US 2001294474
US 6588457	B2			B65B-001/04	Provisional application US 2001294474

Abstract (Basic): US 20020179176 A1
NOVELTY - New method of packaging small measures of finely divided substance comprises:
(1) forming an aerosol of the substance;
(2) providing a channel for transporting the aerosol and a line of packages arranged to move in closed cycle;
(3) moving the linear array of packages so that each package passes adjacent the open side channel region; and
(4) precipitating the substance in the packages as they pass the channel.

USE - The method is for packaging small measures of substance, e.g. **pharmaceutical powder** for inhalation therapy (claimed).

ADVANTAGE - The inventive method has very high unit-dose production rate, accurate dose mass, minimizes package substrate contamination from charge generator, eliminates electrostatic forces tending to agglomerate powder in the package, is easily modeled, and adaptable to wide range of powders and substrates.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic view of time division sampler filling apparatus for carrying out the inventive method.

pp; 9 DwgNo 1/3

Technology Focus:

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Component: The substance consists of liquid droplets.

The packages comprise **blister packs** .

The packages are mounted on the turntable that rotates to move the packages, or to an endless belt.

Preferred Property: The velocity of the packages is approximately equal to that of the aerosol moving through the channel.

The substance is suspended in nitrogen gas.

Preferred Method: The method preferably involves introducing the powder into an enclosed chamber, providing a controlled flow rate of gas, dispersing the fine powder into the gas to form an aerosol, moving the aerosol through a deposition zone, providing the endless array of packages while traversing the deposition zone, adjusting process parameters, recycling the packages until all known weight of the fine powder is deposited in the packages, and removing filled packages from the deposition zone.

Precipitation occurs by gravitational forces, electrostatic forces, or is affected by two stage electrostatic precipitator.

Deposition occurs through gravitational settling

Derwent Class: B07; Q31
International Patent Class (Main): B65B-001/04

25/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014004637
WPI Acc No: 2001-488851/200153
Dry powder **inhaler for delivering** drugs **into patient's lungs to treat e.g. bronchial asthma, includes a dispersion chamber comprising beads**

25/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
013360932
WPI Acc No: 2000-532871/200048
Pressurized air inhaler for administering drug **-containing liposomal** powder **aerosol for treatment of respiratory disease, has nebulization chamber for drying aqueous liposome suspension**

25/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
012712110
WPI Acc No: 1999-518223/199943

Measuring dose of powdered medicament **for inhalation**

25/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010552483
WPI Acc No: 1996-049436/199605
Inhaler using patient's breath for delivery of medication - inserted in inhaler in packet having holes for powder exit

25/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008517985
WPI Acc No: 1991-022069/199103
Pulveriser breaking agglomerates in inhalation medicament powder **- is vortex chamber with tangential inlet for use with conventional inhaler**

25/26,TI/9 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

05156857
MULTIPLE CYLINDER MECHANISM FOR UNSEALING **POWDER MEDICINE** CAPSULE AND FOR INJECTING THIS CAPSULE INTO CELOM AND KIT MOUNTED WITH VESSEL FOR GAS FOR PNEUMATIC FEEDING

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File 348:EUROPEAN PATENTS 1978-2004/Feb W01
File 349:PCT FULLTEXT 1979-2002/UB=20040205,UT=20040129
Set     Items   Description
S1     214193   POWDER??
S2     117344   MEDICAMENT? OR MEDICATION? OR MEDICINE
S3     129399   DRUG OR DRUGS
S4     151308   PHARMACEUTICAL? ?
S5       3102   (BLISTER OR BUBBLE)()(PACK? ? OR PACKET? ? OR PAK? ? OR SH-
            EET? ?)
S6     284990   RECEPTACLE? ? OR CONTAINER? ? OR HOLDER? ?
S7     898735   BOTTOM? ? OR UNDERSIDE? ? OR UNDER()SIDE? ? OR BASE OR BAS-
            ES
S8     317474   CONVEX OR CONCAVE OR RAISED OR INDENTED OR ELEVATED
S9     119155   BOWED OR ARCUATE? ? OR ARCUAL OR ARCIFORM OR ARC OR ARCLIKE
             OR ARCHED OR BOWLIKE
S10     86485   INVERTED OR EVERTED
S11     54214   IC=(A61M OR A61L-009/04 OR A61K-000 OR A61K-009)
S12      6352   S1(5N)S2:S4
S13       109   S12(S)S5
S14       708   S12(S)S6 NOT S13
S15     21648   S7(5N)S8:S10
S16         2   S13(S)S15
S17         2   S11 AND S16
S18         2   S14(S)S15 AND S11
S19         2   S18 NOT S17
S20         2   S14(S)S15
S21    451130   S8:S10
S22         8   S13(S)S21
S23         6   S22 NOT S16
S24        46   S14(S)S21
S25        44   S24 NOT (S18 OR S22)
S26        21   S11 AND S25
S27        23   S25 NOT S26
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17/6/2 (Item 2 from file: 348)

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DIALOG(R)File 348:(c) 2004 European Patent Office. All rts. reserv.
01200385
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INHALATION DEVICE

17/3,AB,K/2 (Item 2 from file: 348)

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DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
01200385
```

INHALATION DEVICE
INHALATIONSAPPARAT
DISPOSITIF D'INHALATION

PATENT ASSIGNEE:
AstraZeneca AB, (699188), , 151 85 Sodertalje, (SE), (Proprietor designated states: all)

INVENTOR:
VON SCHUCKMANN, Alfred, Winnekendonker Strasse 52, D-47627 Kevelaer, (DE)
ULLBRAND, Bjorn, Astra Draco AB P.O. Box 24, S-221 00 Lund, (SE)
SELMER, Anders, Astra Draco AB P.O. Box 24, S-221 00 Lund, (SE)

LEGAL REPRESENTATIVE:
Shackleton, Nicola et al (60622), Page White & Farrer 54 Doughty Street, London WC1N 2LS, (GB)

PATENT (CC, No, Kind, Date): EP 1042027 A2 001011 (Basic)
EP 1042027 B1 031203
WO 99031952 990701
APPLICATION (CC, No, Date): EP 98967005 981222; WO 98EP8456 981222
PRIORITY (CC, No, Date): DE 19757207 971222; DE 19757208 971222
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: **A61M-015/00**
ABSTRACT WORD COUNT: 9266
NOTE: No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200349	615
CLAIMS B	(German)	200349	553
CLAIMS B	(French)	200349	651
SPEC B	(English)	200349	8135
Total word count - document A			0
Total word count - document B			9954
Total word count - documents A + B			9954

...SPECIFICATION generally rectangular shape, which includes a plurality of blisters 12, each containing a dose of **powder** containing **medicament** , and an attachment member 13, to which the suction tube 7 is attachable, fixed to...
...configured parts of the attachment member 13 as will be described in more detail hereinbelow. **The bottom** wall member 21c of the first channel 21 includes a downwardly-directed projection 29 which...
...in position relative to the blister pack element 11 as again will be described in **more detail** hereinbelow. The second channel 23, in this embodiment of arcuate section, is elongate and includes...
...includes agroove 35 which extends across the width thereof and along the longitudinal axis of **the blister pack** element 11.
The blister pack element 11 further comprises a thin film 37, in this...

19/3,AB,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
01392170
POWDER MEDICINE MULTIPLE DOSE ADMINISTRATION DEVICE
VORRICHTUNG ZUR VERABREICHUNG VON MELERFACHEN PULVERMEDIZINDOSEN
DISPOSITIF D'ADMINISTRATION DE DOSES DE POUDRE MEDICALE MULTIPLES
PATENT ASSIGNEE:
TEIJIN LIMITED, (212524), 6-7, Minamihonmachi 1-chome Chuo-ku, Osaka-shi Osaka 541-0054, (JP), (Applicant designated States: all)
INVENTOR:
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DOHI, Masahiko, C/O TEIJIN LIMITED, Iwakuni Factory, 2-1, Hinodecho, Iwakuni-shi, Yamaguchi 740-0014, (JP)
UEJIMA, Yasuhide, C/O TEIJIN LIMITED, Tokyo Research Center, 3-2, Asahigaoka 4-chome, Hino-shi, Tokyo 191-0065, (JP)
MAKINO, Yuji, C/O TEIJIN LIMITED, Iwakuni Factory, 2-1, Hinodecho, Iwakuni-shi, Yamaguchi 740-0014, (JP)
LEGAL REPRESENTATIVE:
Hallybone, Huw George et al (53031), Carpmaels and Ransford, 43 Bloomsbury Square, London WC1A 2RA, (GB)

PATENT (CC, No, Kind, Date): EP 1291031 A1 030312 (Basic)
WO 2001095962 011220
APPLICATION (CC, No, Date): EP 2001936980 010612; WO 2001JP4977 010612
PRIORITY (CC, No, Date): JP 2000174996 000612
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **A61M-013/00** ; A61J-007/00
ABSTRACT EP 1291031 A1

A **powdered medicine** multi-dose administering device in which a hole (5c) is formed in the **bottom** surface of a medicine storage chamber (5a) capable of storing a **powdered medicine** of an amount of many times of administering operation, the hole (5c) being located at a position where a pump unit can be communicated with the exterior via a pipe (2g, 2d). At the administering position, the powdered medicine in a medicine container unit (5b) is injected out of the device together with the air through the pipe, while the hole is kept away from being brought into contact with opening means (2f).

ABSTRACT WORD COUNT: 103
NOTE: Figure number on first page: 1
LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200311	2156
SPEC A	(English)	200311	10960
Total word count - document A			13116
Total word count - document B			0
Total word count - documents A + B			13116

...SPECIFICATION the center of the bottom surface of the device body. Here, the required amount of **powdered medicine** is introduced into the **medicine** storage chamber (5a) in the device body (1). Then, the closure (4) is intimately adhered...
...assembling, the protuberance (4a) of the closure (4) is inserted in one end of an **arcuate** hole (13d) in the **bottom** surface of the rotary spray metering change-over device (13). Next, the pump unit (3...that it can be easily carried.
The administering device of the present invention has the **arcuate** hole (13d) formed in the **bottom** surface of the cylindrical portion of a large diameter of the rotary spray metering change...the device body (1) enabling the medicine container chamber (5b) to be filled with the **powdered medicine** and, besides, when the hole (5c) in the bottom surface of the medicine storage unit...
...of the administration device, so that a decreased pneumatic pressure is applied into the medicine **container** chamber (5b) from the pump (3) and that the **powdered medicine** is filled maintaining a high accuracy. When the protuberance arrives at the extreme end of...
...opposite side, the pipe (2g) of the medicine guiding unit (2) is connected to the **medicine container** chamber (5b), and the **powdery medicine** in the **medicine container** chamber (5b) becomes ready to be sprayed with an easy operation. When a charging position...was set to be 115 degrees to be corresponded to the angle (y) of the **arcuate** hole (5c) formed in the **bottom** surface of the medicine storage unit (5). The angle ((alpha)) of the inclined surface (2i...
...made of polyethylene. The medicine storage unit (5) was filled with 1000 mg of the **powdered medicine** having a particle diameter of 38 to 150 (mu)m. The closure unit (4) was...

19/3,AB,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01189383
DEVICE AND METHOD FOR FEEDING A CONSTANT AMOUNT OF POWDER BODY
GERAT UND VERFAHREN ZUR VERABREICHUNG EINER KONSTANTEN PULVERMENGE
DISPOSITIF ET PROCEDE SERVANT A ADMINISTRER UNE QUANTITE CONSTANTE DE POUDRE
PATENT ASSIGNEE:
TEIJIN LIMITED, (212524), 6-7, Minamihonmachi 1-chome Chuo-ku, Osaka-shi Osaka 541-0054, (JP), (Applicant designated States: all)
INVENTOR:
MATSUGI, Hideo Teijin Limited, Tokyo Research Ctr., 3-2, Asahigaoka 4-chome, Hino-shi, Tokyo 191-006 5, (JP)
MAKINO, Yuji Teijin Limited, Tokyo Research Ctr., 3-2, Asahigaoka 4-chome , Hino-shi, Tokyo 191-0065, (JP)
DOHI, Masahiko Teijin Limited, Tokyo Research Ctr., 3-2, Asahigaoka 4-chome, Hino-shi, Tokyo 191-0065, (JP)
UEJIMA, Yasuhide Teijin Ltd., Tokyo Research Ctr., 3-2, Asahigaoka 4-chome, Hino-shi, Tokyo 191-0065, (JP)
LEGAL REPRESENTATIVE:
Hallybone, Huw George et al (53031), CARPMAELS AND RANSFORD 43 Bloomsbury Square, London WC1A 2RA, (GB)
PATENT (CC, No, Kind, Date): EP 1066849 A1 010110 (Basic)
WO 0041755 000720
APPLICATION (CC, No, Date): EP 900396 000114; WO 00JP156 000114
PRIORITY (CC, No, Date): JP 997863 990114
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **A61M-013/00**
ABSTRACT EP 1066849 A1
A powdered medicine multi-dose administering device has a medicine container unit (5b) for containing a unit-dose of medicine under the lower surface of the medicine storage chamber (5a) storing the medicine in a multi-dose amount. A medicine guiding unit (2) moves between a filling position and an administering position while maintaining a contact with the **bottom** surface. At the filling position, the medicine container unit is opened to the medicine storage chamber and is filled with the medicine. As the medicine **container** unit moves from the filling position to the administering position, the **powdered medicine** in the medicine **container** unit is swept and metered. At the administering position, the medicine in the medicine **container** unit is injected by the action of the pump unit (3) through a filter (6) and a pipe (2g, 2d, 2c).
ABSTRACT WORD COUNT: 136
NOTE: Figure number on first page: 1
LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200102	2034
SPEC A	(English)	200102	10093
Total word count - document A			12127
Total word count - document B			0
Total word count - documents A + B			12127

...SPECIFICATION 2) is inserted in the medicine storage unit (5) at such a

position that the **arcuate** groove (12) formed in the **bottom** surface (2e) of the medicine guiding unit is fitted to the protuberance (7) formed on...
...protuberance (8) at the center of the bottom surface of the device body. Here, the **powdered medicine** of an amount required for many times of administration operation is introduced into the medicine...that it can be easily carried.
The administering device of the present invention has the **arcuate** groove (12) formed in the **bottom** surface (2e) of the medicine guiding unit (2), has the protuberance (7) formed on the...
...of the groove (12) so that the medicine container chamber (5b) is filled with the **powdered medicine** , and enables the pipe (2g) of the medicine guiding unit (2) to be connected to the medicine **container** chamber (5b) when the protuberance arrives at the extreme end of the groove (12) on the opposite side so that the **powdered medicine** in the **medicine container** chamber (5b) is ready to be sprayed. When a charging position is marked at an...

23/6/1 (Item 1 from file: 348)
01288594
Inhalant medicator

23/6/2 (Item 2 from file: 348)
00834175
INHALER FOR ADMINISTERING MEDICAMENTS FROM BLISTER PACKS

23/6/4 (Item 2 from file: 349)
00544829
3-METHYLIDENYL-2-INDOLINONE MODULATORS OF PROTEIN KINASE

23/6/6 (Item 4 from file: 349)
00310040 **Image available**
DRY POWDER INHALER

23/3,AB,K/3 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00758288
METHOD AND APPARATUS FOR DISTRIBUTING POWDER
PROCEDE ET APPAREIL DE DISTRIBUTION DE POUDRE
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
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PIKE Marcus Edward, Glaxo Wellcome plc, Priory Street, Ware, Hertfordshire SG12 0DJ, GB, GB (Residence), GB (Nationality), (Designated only for: US)
Legal Representative:
PIKE Christopher Gerard, Pike & Co., Hayes Loft, 68A Hayes Place, Marlow, Buckinghamshire SL7 2BT, GB
Patent and Priority Information (Country, Number, Date):
Patent: WO 200071424 A1 20001130 (WO 0071424)

Application: WO 2000EP4500 20000518 (PCT/WO EP0004500)
Priority Application: GB 9911770 19990521
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 5677
English Abstract

There is provided an apparatus for densifying, preparing or levelling powdered medicament which comprises a powder bed (30); and a blade (40) movable relative to the powder bed on a linear path, wherein said blade presents a forward acute angle to said linear path.

Fulltext Availability: Claims
Claim

... to preparing, levelling or densifying a powder bed ready for measuring and removing doses of **powdered medicament** for transfer to a container such as a blister pocket of a **blister pack** .
Background to the invention
Powder beds containing a reservoir of excess powder are commonly used in the filling of containers, such as blister pockets, with defined doses of **powdered medicament** . Prior art filling systems often use a bowl which is either static or rotatable around...
...levelled powder is then ready for the measuring and removal of the defined doses of **powdered medicament** from the **powder** bed and the doses are then transferred to the container. The use of a blade...
...According to the present invention there is provided an apparatus for densifying,
preparing or levelling **powdered medicament** comprising:
a) **powder** bed; and
b) a blade movable relative to the powder bed on a linear path,
wherein said blade presents a forward acute angle to said linear path.
The **powdered medicament** may comprise **drug** alone or the drug together with an excipient. The blade may move across a static...
...from the point that would form the mid point of the circle created if the **arc** of the curve were extended so that the two ends of the curved blade are...
...movement of the blade relative to the powder bed exerts a compressive force on said **powdered medicament** .
Preferably, the blade material is selected from the group consisting of pharmaceutical grade metallic materials...
...longer than the time taken for multiple blades to act. Preferably, the apparatus further comprises **powdered medicament** located on the powderbed. Preferably, the **powdered medicament** comprises a **drug** . Preferably, the drug is selected from the group consisting of albuterol, salmeterol, fluticasone propionate and...
...any mixtures thereof. A particularly preferred combination comprises salmeterol xinafoate and fluticasone propionate. Preferably, the **powdered medicament** additionally comprises an excipient. Preferably, the excipient is a sugar. A suitable sugar is lactose. The invention also provides a method of densifying, preparing or levelling **powdered**

medicament comprising
a) locating **powdered** **medicament** on a **powder** bed; and
b) moving a blade relative to said powder bed on a linear path such that said blade moves through the owdered medicament,
wherein the blade presents a forward acute angle to said linear path. The **powdered** **medicament** may comprise **drug** alone or the drug together with an excipient. The blade may move across a static...
...from the point that would form the mid point of the circle created if the **arc** of the curve were extended so that the two ends of the curved blade are...
...movement of the blade relative to the powder bed exerts a compressive force on the **powdered** **medicament** .
Preferably, the blade material is selected from the group consisting of pharmaceutical grade metallic materials and non-metallic materials. The preferred material is **pharmaceutical** grade stainless steel. Preferably, the **powder** is distributable by at least one subsequent blade. Preferably, the at least one subsequent blade...
...passes may be longer than the time taken for multiple blades to act. Preferably, the **powdered** **medicament** comprises a **drug** . Preferably, the drug is selected from the group consisting of albuterol, salmeterol, fluticasone propionate and...
...any mixtures thereof. A particularly preferred combination comprises salmeterol xinafoate and fluticasone propionate. Preferably, the **powdered** **medicament** additionally comprises an excipient. Preferably, the excipient is a sugar. A suitable sugar is lactose...
...the invention, the apparatus may be used for densifying, preparing or levelling a sample of **powdered** **medicament** .
Brief Description of the Drawings
The invention will now be described with reference to the accompanying drawings in which:
Figure 1 shows an apparatus for densifying, levelling and preparing **powdered** **medicament** in accord with the present invention;
Figure 2 shows an alternative apparatus in accord with...
...Detailed Description of the Drawings
Figure 1 shows an apparatus for densifying, levelling and preparing **powdered** **medicament** in accord with the present invention. A perforated plate 10 in contact with a blanking...
...perforated plate 10 to the blanking plate 20 is a reservoir of powder 30. The **powder** 30 comprises a suitable **medicament** formulation. Situated above the **powder** reservoir is blade 40 and wiper blade 50. The blade may be seen to have...1 1 0 to the blanking plate 120 is a reservoir of powder 130. The **powder** 130 comprises a suitable **medicament** formulation. Situated above the **powder** reservoir are blades 140, 142. The blades 140, 142 are shown with a long tail...
...perforated plate 210 to the blanking plate 220 is a reservoir of powder 230. The **powder** 230 comprises a suitable **medicament** formulation. Situated above the **powder** reservoir are blades 240, 242.
The blades 240, 242 are similar to the blade shown...then be moved to the far side of the powder bed 317, turned around and **raised** slightly so that they can then move back across the powder bed 317 and re...
...may then be moved to the far side of the powder bed, turned around and **raised** slightly so that it can then move back across the powder bed and re-lay...
...for preparing, levelling and densifying a powder bed ready for measuring and removing doses of **powdered** **medicament** for transfer to a

1 0
suitable container and is particularly suitable for **powdered medicament** used in the treatment of respiratory disorders. Appropriate medicaments may thus be selected from, for...
...or more of the following claims:
12
Claims
An apparatus for densifying, preparing or levelling **powdered medicament** comprising:
a) a **powder** bed; and
b) a blade movable relative to the powder bed on a linear path...

23/3,AB,K/5 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00316182
IMPROVED INHALER AND MEDICATED PACKAGE
INHALATEUR ET EMBALLAGE PERFECTIONNES POUR MEDICAMENTS
Patent Applicant/Assignee:
MECIKALSKI Mark B,
Inventor(s):
MECIKALSKI Mark B,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9534337 A1 19951221
Application: WO 95US8485 19950609 (PCT/WO US9508485)
Priority Application: US 94258743 19940610
Designated States: AU CA CN JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 3777
English Abstract
An improved inhaler and medicated packet which uses a patient's breath to send powdered medication into the oral cavity of the patient. The inhaler is reusable and controls both the rate of airflow inside the chamber and prevents the patient from blowing into the inhaler (9). Disposable medicated packets (20) are inserted into the inhaler (9). These medicated packets (20) have preformed holes (21a and 21b) which pass air through the packet (20) and entrain the medication (23). One inhaler can be used numerous times for numerous different types of medication. These medicated packets (20) have a removable, protective layer to maintain the sterility and dryness of the measured dose of medication. In operation, the medication is transported from the packet (20), through the inhaler (9), and into the patient. The medicated packets are transparent on one side to allow the patient to observe if the medication has been completely delivered.
Fulltext Availability: Claims
Claim
... The blister packet according to claim 23 wherein said blister portion is transparent.
26 A **blister packet** , insertable into an apparatus having an essentially cylindrical body member containing a slot located in said body member, a mouthpiece located at a first end of said body member, said **blister packet** for containing and delivering a measured dose of a **powdered medication** to a patient comprising:
a) an essentially flat portion having at least two holes therein;
b) a **raised** blister portion attached to said flat portion and forming

an envelope therebetween;
c) **powdered medication** contained in said envelope; and,
d) a removable layer affixed to said flat portion and...

26/6/2 (Item 2 from file: 348)
01059284
IMPROVEMENTS IN MEDICAMENTS FOR ASTHMA TREATMENT

26/6/3 (Item 3 from file: 348)
00742977
METHOD AND APPARATUS FOR LOADING CONTAINERS OF PARTICULATE MATERIAL

26/6/4 (Item 4 from file: 348)
00742975
DEVICE FOR ADMINISTERING SINGLE DOSES OF A MEDICAMENT

26/6/5 (Item 5 from file: 348)
00708413
POWDER INHALATOR

26/6/8 (Item 2 from file: 349)
01064329 **Image available**
ORAL DOSAGE FORMS COMPRISING FENOFIBRATE

26/6/10 (Item 4 from file: 349)
01048290 **Image available**
DRY POWDER INHALER

26/6/11 (Item 5 from file: 349)
00981942 **Image available**
AUTOPERFORATION CARTRIDGE FOR DRY POWERED INHALATIONS

26/6/17 (Item 11 from file: 349)
00378248 **Image available**
FILLING CONTAINERS WITH PARTICULATE MATERIAL

26/6/19 (Item 13 from file: 349)
00313085
POWDER INHALER

26/6/20 (Item 14 from file: 349)
00298332 **Image available**
POWDER INHALATOR

26/6/21 (Item 15 from file: 349)
00109270
POWDER INHALATION DEVICE

26/3,AB,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00602964
A combined syringe-container
Kombinierter Spritzenbehalter
Recipient de seringne combine
PATENT ASSIGNEE:

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INVENTOR:
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LEGAL REPRESENTATIVE:
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PATENT (CC, No, Kind, Date): EP 599649 A1 940601 (Basic)
EP 599649 B1 980923
APPLICATION (CC, No, Date): EP 93309430 931125;
PRIORITY (CC, No, Date): JP 92318583 921127; JP 93212949 930827
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: **A61M-005/19** ; **A61M-005/28** ; **A61M-005/315** ; **A61M-005/31**
ABSTRACT EP 599649 A1

An improved combined syringe/container (1) is provided which can be used in any step of preparation of a medicament by vacuum freeze-drying, etc., storage of a medicament, mixing of medicaments and dosing of a medicament in sanitary and stable manner. The combined syringe/container (1) comprises a cylinder (2) having a front end part (3) at one end and an opening part (5) at another end and a bypass (11) running in the longitudinal direction near the central position of the cylinder (2) on the inner wall within the cylinder, a first sealing stopper (8) adapted at a position toward the opening part (5) of the cylinder (2) from the bypass (11) within the cylinder (2) to form a first compartment (7) between the front end (3) of the cylinder (2) and the first sealing stopper (8) and a second sealing stopper (10) adapted at a position toward the opening part (5) of the cylinder (2) from the first sealing stopper (8) within the cylinder (2) to form a second compartment (9) between the first sealing stopper (8) and second sealing stopper (10), characterized in that one or more bypasses (11) are provided in a concave form on the inner wall surface of the cylinder and the outer circumference of the cylinder (2) has a smooth cylindrical shape, or in that one or more bypasses (11,14) are provided in a concave form in two stages on the inner wall surface of the cylinder (2). (see image in original document) (see image in original document)

ABSTRACT WORD COUNT: 255
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9839	301
CLAIMS B	(German)	9839	307
CLAIMS B	(French)	9839	302
SPEC B	(English)	9839	3848
Total word count - document A			0
Total word count - document B			4758
Total word count - documents A + B			4758

...SPECIFICATION first bypass 11 and to enter the first compartment 7 and mix with a concentrated **medicament** or **powdered medicament** to prepare a liquid **medicament** diluted to be dispensed.
At this time, the double-headed needle 16 is penetrated through...

26/3,AB,K/7 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01067168

DRY POWDER INHALERS, RELATED BLISTER DEVICES, AND ASSOCIATED METHODS OF DISPENSING DRY POWDER SUBSTANCES AND FABRICATING BLISTER PACKAGES

INHALATEURS DE POUDRE SECHE, DISPOSITIFS A EMBALLAGE-COQUE CORRESPONDANTS ET PROCEDES CORRESPONDANTS DE DISTRIBUTION DE POUDRE SECHE ET DE FABRICATION D'EMBALLAGES-COQUES

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Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200395010 A2 20031120 (WO 0395010)
Application: WO 2003US14619 20030508 (PCT/WO US0314619)
Priority Application: US 2002379521 20020510; US 2002392671 20020627; US 2003440513 20030116
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 18994

English Abstract
THE PRESENT INVENTION INCLUDES DRY POWDER INHALERS AND ASSOCIATED **MULTI-DOSE DRY POWDER PACKAGES** FOR HOLDING INHALANT FORMULATED DRY POWDER SUBSTANCES. THE MULTI-DOSE PACKAGE (100) COMPRISES AT LEAST ONE THIN PIEZOELECTRIC POLYMER MATERIAL LAYER (28) DEFINING AT LEAST A PORTION OF A PLURALITY OF SPATIALLY SEPARATED DISCRETE ELONGATE DRY POWDER CHANNELS (101) HAVING AN ASSOCIATED LENGTH, WIDTH AND HEIGHT; AND A METALLIC MATERIAL (100M) ATTACHED TO SELECTED PORTIONS OF THE PIEZOELECTRIC POLYMER MATERIAL (28) INCLUDING EACH OF THE REGIONS CORRESPONDING TO THE ELONGATE DRY POWDER CHANNELS (101) TO, IN OPERATION, DEFINE ACTIVE ENERGY RELEASING VIBRATORY CHANNELS. IN OPERATION, THE ELONGATE CHANNELS CAN BE SELECTIVELY INDIVIDUALLY ACTIVATED TO VIBRATE UPON EXPOSURE TO AN ELECTRICAL INPUT. THE DRY POWDER INHALER (10) INCLUDES AN ELONGATE BODY (10B) HAVING OPPOSING FIRST AND SECOND OUTER PRIMARY SURFACES (11, 12) WITH A CAVITY (10C) THEREBETWEEN AND A MULTI-DOSE SEALED **BLISTER PACKAGE** (100) LOCATED IN THE SAID CAVITY (10C). THE INHALER (10) ALSO INCLUDES A COVER MEMBER (15) THAT IS PIVOTABLY ATTACHED TO THE ELONGATE BODY (10B).

Main International Patent Class: **A61M-015/00**

Fulltext Availability: Detailed Description

26/3,AB,K/9 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01061236
MEDICAMENT DISPENSER
DISTRIBUTEUR DE MEDICAMENT
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
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FARR Philip William, GlaxoSmithKline, Park Road, Ware, Hertfordshire SG12 0DP, GB, GB (Residence), GB (Nationality), (Designated only for: US)
KELLY Andrew Michael, GlaxoSmithKline, Park Road, Ware, Hertfordshire SG12 0DP, GB, GB (Residence), GB (Nationality), (Designated only for: US)
Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200390825 A1 20031106 (WO 0390825)
Application: WO 2003EP4403 20030424 (PCT/WO EP0304403)
Priority Application: GB 20029526 20020426
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 12232
English Abstract
There is provided a medicament dispenser for use with a medicament carrier (120) having a plurality of pockets (126) for containing medicament wherein said pockets (126) are spaced along the length of and defined between two peelable sheets (122, 124) secured to each other. The dispenser has an opening mechanism for opening received pockets (126) of the medicament carrier. The mechanism includes an indexer for indexing pockets of a medicament carrier (120) in use with said medicament dispenser. The indexer comprises an index ratchet (140), which is moveable between a locked position in which said ratchet (140) locks a lid driver (130) and a release position in which the ratchet releases the lid driver (130). Actuation of the medicament dispenser releases the index ratchet (140) from the lid driver to enable drivable peeling of the lid sheet (122) from the base sheet (124) of the pocket at an opening station (142).
Main International Patent Class: **A61M-015/00**
Fulltext Availability: Claims

Claim
... dispenser according to any of claims 24 to 38, wherein the cassette additionally comprises a **raised** portion to fit against the holder. 41 . A medicament dispenser according to any of claims 1 to 39, wherein the **medicament** is in **powdered** or solid (e.g. tablet) form. 541. A medicament dispenser according to claim 40, wherein...

26/3,AB,K/12 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00872107
MEDICAMENT DISPENSER
DISTRIBUTEUR DE MEDICAMENTS
Patent Applicant/Assignee:
GLAXO GROUP LIMITED, Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 ONN, GB, GB (Residence), GB (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
BRAND Peter John, Glaxo Wellcome plc, Park Road, Ware, Herts SG12 0DP, GB , GB (Residence), GB (Nationality), (Designated only for: US)
GODFREY James William, Glaxo Wellcome plc, Park Road, Ware, Herts SG12 0DP, GB, GB (Residence), GB (Nationality), (Designated only for: US)
RAND Paul Kenneth, Glaxo Wellcome plc., Park Road, Ware, Herts SG12 ODP, GB, GB (Residence), GB (Nationality), (Designated only for: US)
Legal Representative:
PIKE Christopher Gerard (agent), Pike & Co., Hayes Loft, 68A Hayes Place, Marlow, Buckinghamshire SL7 2BT, GB,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200205879 A1 20020124 (WO 0205879)
Application: WO 2001EP7968 20010711 (PCT/WO EP0107968)
Priority Application: GB 200017301 20000715; GB 200020538 20000822
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 11162
English Abstract
There is provided a medicament dispenser for use in the storage, presentation and/or dispensing of medicament comprising a body shaped for receipt of a medicament container. In association with the body, there is a first transceiver for transmitting and receiving data. A medicament container is receivable by the body. In association with the medicament container, there is a second transceiver for transmitting and receiving data. Data is transferable in two-way fashion from the first transceiver to the second transceiver. The medicament dispenser may be supplied in kit of parts form.
Main International Patent Class: **A61M-015/00**
International Patent Class: **A61M-005/00**
Fulltext Availability: Detailed Description
Detailed Description

... aforementioned metering means for metering (e.g. a dose of) medicament therefrom. Where the medicament **container** comprises one or more individual capsules or blisters the release means typically comprises means for rupturing, peeling apart or otherw(**inverted** exclamation mark)se accessing the contents thereof.
Suitably, the medicament is selected from the group...402 in the form of an elongate strip comprising a blister 404 for containment of **powdered medicament** . Whilst for simplicity only one blister 404 is shown (**inverted** exclamation mark)t will be appreciated that variations coulci comprise multiple blisters (e.g. arranged...

26/3,AB,K/13 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00853347
MEDICAMENT CONTAINER WITH SAME SIDE AIRFLOW INLET AND OUTLET AND METHOD OF USE
CONTENANT DE MEDICAMENT A ENTREE ET SORTIE D'AIR DU MEME COTE ET PROCEDE D'UTILISATION
Patent Applicant/Assignee:
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Inventor(s):
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Legal Representative:
BATEMAN Randall B (et al) (agent), Morriss, Bateman, O'Bryant & Compagni, P.C., Suite 300, 5882 South 900 East, Salt Lake City, UT 84121, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200185097 A2-A3 20011115 (WO 0185097)
Application: WO 2001US10615 20010402 (PCT/WO US0110615)
Priority Application: US 2000568643 20000510
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 14433
English Abstract
A **medicament container** (100) configured to improve entrainment of the medicament in the air and to improve deposition of the medicament in the lungs includes an upper layer (104) and a bottom layer (112) with medicament disposed therebetween. The upper layer is punctured to provide first and second openings (220) to allow airflow to enter and exit through the upper layer of the **medicament container**. In a preferred embodiment, the medicament container has a **projection (172) which forms an elbow-shaped medicament containment/flow channel (224) between the upper layer and the lower layer**. The medicament container is preferably used in a housing (300) which selectively controls airflow through the medicament container and the housing to improve deep lung deposition of the medicament.
Main International Patent Class: **A61M-015/00**

Fulltext Availability: Detailed Description
Detailed Description
... 186 has a plurality of concave receptacles 192 disposed concentrically around the opening for receiving **medicament** so that the **powdered medicament** is held between the upper layer 104 and the medicament,carrying tray 186...

26/3,AB,K/14 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00834909
DRY POWDER INHALER DEVICES, MULTI-DOSE DRY POWDER DRUG PACKAGES, CONTROL SYSTEMS, AND ASSOCIATED METHODS
INHALATEURS A POUDRE SECHE, RECIPIENTS DE MEDICAMENTS SOUS FORME DE POUDRE SECHE EN DOSES MULTIPLES, SYSTEMES DE COMMANDE ET PROCEDES ASSOCIES
Patent Applicant/Assignee:
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English Abstract
Dry powder inhalers (FIG. 1) with integrated active energy patient assist dispersal systems are configured with control systems which provide adjustable energy output responsive to the user's inspiratory capabilities and/or the flowability of the dry powder being administered. The multi-dose dry drug package (FIG. 2) a piezoelectric polymer substrate which flexes to deform and provide mechanical oscillation in a selected region of the package corresponding to the dry powder drug which is dispersed during inhalation by a user. Control system (FIG. 12) employs fuzzy logic to relate in response to a user's inspiratory effort.
Main International Patent Class: **A61M-015/00**
Fulltext Availability: Detailed Description
Detailed Description
... 40 are configured to hold a dose or

single-sized bolus quantity of a dry **powder drug** 30. In a preferred embodiment, the wells 40 are defined by **concave** contours formed in the piezoelectric substrate layer 28. It is also preferred that the dry **powder drug** 30 be sealed in the well by a sealant layer 45 such as a polymer...
...251b, and the nonreactive barrier 35, (and optionally the backing layer 50) have a conformal **concave** shape. That is, each layer substantially follows the shape of the piezoelectric substrate layer material...
...during application of the excitation signal across the piezoelectric substrate layer 28. Other non-circular **receptacle** configurations can also be employed such as, but not limited to, oblate or prolate spheroids...

26/3,AB,K/16 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00492734
FLEXIBLE MULTIPLE COMPARTMENT MEDICAL CONTAINER WITH PREFERENTIALLY RUPTURABLE SEALS
RECIPIENT MEDICAL SOUPLE A PLUSIEURS COMPARTIMENTS POSSEDANT DE PREFERENCE DES JOINTS DE RUPTURE
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Publication Language: English
Fulltext Word Count: 19928
English Abstract
A flexible **container** (10) is provided for the storage and mixing together of diluents and medicaments. The container incorporates multiple compartments (18, 20, 22) separated by preferentially peeled seals (24, 26) in which the diluents and medicaments are stored. The container is constructed of thermoplastic materials having high oxygen and moisture barrier properties which allows the container to be stored for extended periods of time without degrading the contents. The peelable seals are ruptured by manipulation of the container to thereby mix the contents together for delivery through standard IV arrangement to a patient. The container is fillable with a single component liquid medicament which may be susceptible to sloshing or turbulence. Turbulence is minimized by eliminating the internal gaseous head space by initially forming the head space with a low molecular weight gas such as helium.
Main International Patent Class: **A61M-001/00**
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Fulltext Availability: Claims
Claim
... but also for binary components comprising liquid diluents and powdered medicaments, if such is desired.

CONTAINER WITH REDUCED HEAD SPACE

An additional embodiment of a medical **container** suitable for combined storage and administration of emulsions, liposomes, and the like, which are particularly susceptible to sloshing or turbulence, is illustrated in FIG. 1 3. While the **container** , generally indicated at 1 1 0, is superficially similar to previously described embodiments, it will be noted that the **container** comprises a single compartment II 2 adapted to contain an active ingredient, preferably a liquid...

...empty outlet compartment 114 by a generally straight, rectangular peelable seal 116 which spans the **container** and overlaps a permanent peripheral seal 16 which binds together the front and rear sheets comprising the **container** . An outlet port 30 is provided at one end of the **container** and is in communication with the outlet compartment 1 14. In operation, the **container** II 2 is manipulated by squeezing which causes fluid pressure developed in the component compartment...or gas) incorporated into the component compartment 1 1 2 with the liquid. Such a **container** I 1 0 is suitably manufactured from front and rear sheets comprising the above-described...

...thereof The front and rear sheets are combined together from film webs in a modular **container** fabrication apparatus such as disclosed in co-pending application serial number 08/837,927 filed...

...Front and rear sheet film webs are combined to form the general outlines of the **container** II 0 as illustrated in FIG. 13. In addition, the fabricated **container** includes a sacrificial strip extending from and disposed to one side of the **container** which also includes sacrificial filling ports and filling channels which are in communication with the...

...described in the noted reference, the sacrificial strip and sacrificial ports are useful during the **container** 's filling process, and are cutaway after filling is complete and the **container** is ready for shipment to the consumer. After the **container** is brought to the stage of fabrication where it is ready for filling with a liquid component, the **container** is initially sterilized by exposure to UV radiation or an electron beam (E-beam). After the sterilization procedure is completed, the sterilized medical **containers** are transported to an aseptic filling facility and the **containers** are aseptically filled in accordance with practice of the invention as is described with reference to an exemplary process flow-chart depicted in FIG. 14. 3 5 **Container** filling will take advantage of manufacturing technology developed in connection with integrated circuit fabrication that...

...more common in the medical industry. This technology generally involves a move away from conventional **container** filling in class I 00 aseptic environments, to **container** filling within an "isolator" unit in which the environment is sterile. The main distinction between...

...environment. Am isolator is in essence, a ccmini environment" which encloses the immediate machinery and **container** filling operation within a controlled space. The worker is separated from this space and interferes...

...disclosure of which is expressly incorporated herein by reference. As noted in the cited reference, **containers** are introduced and moved through a filling isolator by a transport mechanism which engages contact flanges provided on the **container** 's sacrificial ports for such purpose. The transport mechanism indexes and moves the **container**

through the various process stations comprising the process, such as an initial weight determination, de...

...like. Specifically, and in accordance with the exemplary process flow diagrain of FIG. 14, the **container** I 1 0 is introduced into a liquid fill isolator and placed on a continuous-loop transport band which indexes the **container** through the steps of the liquid filling process. Each **container** is indexed to a fill station at which a robotic arm moves through an **arc** and gasps and removes the safety cap from the compartment's sacrificial port to make...

...solution, an active emulsion, or the like, is dispensed, in carefully controlled doses, into the **container** through the sacrificial port. It will be understood by those having skill in the art that liquid may be introduced to the **container** in a single dispensing step. Alternatively, a dual dispensing step or multiple dispensing step procedure may be used, where the **container** is indexed past two or more sequentially positioned dispensing nozzles. A multiple dispensing step procedure is particularly suitable for filling the **container** with liquids which are extremely susceptible to turbulence and which must be provided in carefully controlled dosages. Following the dispensing step, the **container** is indexed to a heat seal station where the component compartment head space is first...

...comprises a heat seal platen opposed to a backing plate which are closed over the **container** so as to seal off the communication channel between the sacrificial port(s) and the...

...continues the pen-nanent 1 0 peripheral seal such that the entire periphery of the **container** is now closed-off. The filled **container** now exits the isolator and is rinsed and dried to remove any residual liquid from...

...and is trimmed to its final dimensions by removing the oversized sacrificial portion of the **container** which includes the sacrificial ports. **Container** fabrication and filling is now complete. 1 5 It will be understood by those having...filling process introduces a particular volume of helium gas into the component compartment of the **container** and does, indeed, initially define a head space within the **container** . Returning now to FIG. 13, the initial head space defined by the jet of helium...

...compartment. However, it will be immediately recognized that the thermoplastic films used to construct the **container** 1 1 0 have the properties of membranes and are, thus, subject to the physical...

...of relative permeability. For example, the 80:20 film comprising the front sheet of the **container** I I 0 has been described above as having a particular permeability with respect to oxygen (02). In addition to recognizing the **container** films as penneable membranes, it is also important to recognize that concentration driven diffusion across...

...Law, also applies to the system under consideration. When helium is initially introduced into the **container** , the volume of helium Vi is present at nominally one atmosphere. However, this volume comprises...

...that material across the membrane, helium will preferentially diffuse through (permeate) the material comprising the **container** and pass from the head space volume Vi into the atmosphere. Likewise, air (80% N2...

...20% 02) is subject to the same concentration gradient diffusion from the atmosphere to the **container** 's head space, but the exchange rate of air for helium is considerably less than...

...exchange between air and helium is determined by the ratio of the permeability of the **container** material to helium to the permeability of the **container** material to air. Since helium is an atomic gas, i.e.,

comprised of helium atoms...
...of air making it easier for helium to move between the component molecules comprising the **container** film. For example, the atomic radius of a helium atom is smaller than I angstrom...
...diffusion rate about 4 times that of air, such that as helium permeates through the **container** material and is replaced by air, the final head space volume, at equilibrium, is at...
...molecular cross-section. For example, the arrangement and configuration of the molecular chains comprising the **container** film will have 1 5 an impact on the relative diffusivities of the two gasses...
...head space. For example, the head space could be initially created with helium and the **container** could then be placed in a chamber filled with pure nitrogen (N2). A volume of...
...be considerably smaller than the initial volume of helium, and quite possibly practically nil. The **container** could then be removed from the nitrogen ambient and introduced into ordinary room atmosphere where...
...would cause some of the nitrogen comprising the final head space volume to permeate the **container** 's material into the air in competition with air's diffusing across the membrane into the head space volume. Because air comprises 80% nitrogen, the concentration gradient across the **container** film (the membrane) is relatively small and equilibrium rate exchange considerations would mean that the head space volume change would be di minimus. As liquid is dispensed from such a **container** , it is often desirable to evaluate the progress of an infusion by comparing the **container** 's liquid level to graduation marks provided on the **container** for such purpose. For this to happen, there must be a meniscus present in the liquid. It is for this reason that the outlet chamber 1 14 of the **container** I I 0 of FIG. 14 is filled with 0.2 micron filtered air. The...
...in the outlet compartment defines a meniscus on the surface of the liquid once the **container** is manipulated and the peelable seal 1 1 6 is ruptured. Thus, the liquid in...
...1 0 preferentially peelable seals do not limit the scope of the invention. Use of **powdered** **medicaments** in the intermediate compartment or a plurality of compartments for **powdered** and liquid **medicaments** , to be mixed with various diluents, may be employed using the present invention. Moreover, the of the **container** . The thickness of the seals and their degree of overlap with the **container** 's permanent peripheral seal may all be adjusted to conforrn with particular manufacturing practices, while...
...space volume. Any other gas with a preferential permeability and/or diffusion rate through the **container** material with respect to air is suitable for use in initially filling the **container** . Alternative gasses might include hydrogen or neon or even argon, so long as the initial...
...film material with respect to air. The above descriptions of exemplary embodiments of flexible, sterile **containers** are for illustrative purposes. Because of variations which will be apparent to those skilled in...

26/3,AB,K/18 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00313086
IMPROVEMENTS IN AND RELATING TO CONTAINERS OF PARTICULATE MATERIAL
RESERVOIRS AMELIORES DE MATERIAU EN PARTICULES
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Publication Language: English
Fulltext Word Count: 7825
English Abstract

A method of producing a **container** (201, 231, 350) having a plurality of apertures (e.g. 202, 232, 352) each containing a respective dose of **powdered material, such as a medicament**, involves placing an empty container in a position in which its apertures communicate with a reservoir (216, 84) of powdered material. The material is then passed, for example by the flow of gas, from the reservoir into the apertures to fill the latter, and the container is then separated from the reservoir and the apertures are optionally sealed with sheet material (204, 206, 321, 323). Since the apertures are filled, their volume determines the amount of each dose which therefore does not have to be measured prior to introduction into the apertures. The container may comprise a rigid or flexible plate and in latter case can be subsequently rolled into the form of a cylinder for use in an inhaler. Apparatus for performing the method, and an inhaler for use with a cylindrical container, are also shown.

Main International Patent Class: **A61M-015/00**
Fulltext Availability: Detailed Description

27/6/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00645138
BICARBONATE-CONTAINING POWDERED MEDICINE STORAGE CONTAINER AND METHOD OF STABILIZING THE SAME MEDICINE

27/6/14 (Item 7 from file: 349)
00795316 **Image available**
TRANSFER SET FOR VIALS AND OTHER MEDICAL CONTAINERS

27/6/20 (Item 13 from file: 349)
00470187 **Image available**
SERTRALINE SALTS AND SUSTAINED-RELEASE DOSAGE FORMS OF SERTRALINE

27/6/21 (Item 14 from file: 349)
00445160 **Image available**
METHOD AND APPARATUS FOR AUTOMATICALLY TRANSFERRING LIQUIDS BETWEEN CONTAINERS